ATARI*

CONSUMER ENGINEERING

1272 BORREGAS AVENUE P.O. BOX 427 SUNNYVALE, CALIFORNIA 94086 TELEPHONE: (408) 745-2250 TELEX: 35-7488

FIRST ARTICLE AND SAMPLE SUBMITTANCE FORM FOR PROTOTYPE PCB'S

VENDOR					
ATARIPART NO. CAO 1802	9 REV. 1	NO. 3	PROJECT C)	(2800 (CI)	NDY)
PART DESCRIPTION PCB					
TOOLING: PROTOTYPE SOF	T HARD	CAV. DIE SAMP.	IDENTIFICA	TION NOS.	
VENDOR PART NO. OR I.D.			QTY. RECEIVE	D	
P.O. NO	-ITEM NO	FIRST A	RTICLE RECVD. DA	ATE	
FIRST ARTICLE APPROVED	DATE	FIRST ARTICLE	REJECTED	DA	TE
MECH. ENG.		MECH. ENG			
ELECT. ENG. Dan Camer	3/24/82	ELECT ENG. —			
I.D. ENG.		I.D. ENG			
ENG. COORD.	,	ENG. COORD.			
CONS. Q. ENG.		CONS. Q. ENG.			
1st ART. COORD.		1st ART. COOR	D	195	
OTHE R		OTHE R			
COMMENTS/EVALUATION THIS PC	B PERFORMS	ELECTRI	CALLY AS	REQUIRED A	AND
SHOWS NO IDIOSYNCRI	ACIES WHICH	WERE NOT	PREVIOUS	LY EVIDEN	T.
LOADING OF THE 9-PIA					
THAN LAST TIME. SPA					K
COULD BE IMPROVEDI	•				
COOCD DE MINIOUCDI	O THE POTOT	4			
COPIES TO: ACCOUNTS PAYAB	LE DENGINEERIN	. OMA	NUFACTURING	INDUSTRIAL	DESIGN
PURCHASING	VENDOR		ALITY ASSURANC) LOIGIN
PURCHASING	VENDOR		ALITY ASSURANC	E	

FIRST ARTICLE REPORT COPIES TO: ENGINEERING; MANUFACTURING; QUALITY ASSURANCE; VENDOR

PARTS LIST SPE	CIFICATION Page <u>l</u> of	3
Drawn Du KRAMER		
Checked DK 2/6/82	Mech. Eng.	
Proj. Eng.	Elec. Eng.	Rev.
	Mfg. Eng.	3

Rev.	Description	Date	Apprv.	Rev.	Description	Date	Apprv.
2 A	PROTO RELEASE						
3	PRIOT RELEASE				PRELIMII	VARY	
					FOR INFORMATION NOT A CONTROLLE	ON ONL	Y MENT

Item	Part Number	Qty.	Description
1	CO14180=19	9	CAP, CERAMIC AXIAL: .luf, + 20%, *7R, C1,9,18,21,26 250 27,34,35,51.
2	CO14180-18	6	" " " .01uf, +20%, X7R, C5,7,13,24,49,
3	CO14180-17	14	" " " .001uf, +20%, X7R, C15,17,19,36 37 38,39,40,41,42,43,44,46,46
4 5 6 7 8 9	CO14180-04 CO14180-07 CO14179-01 CO14179-05 CO14179-19 CO14179-22 CO18261	1 2 1 1 1 2	" " " 150pf, +20%, X7R, 50V, C16 " " 470pf, +20%, X7R, 50V, C47,48 " " 22pf, +5%, NPO, 50V, C12 " " 47pf, +5%, NPO, 50V, C11 " " 100pf, +5%, NPO, 50V, C10 " " 10pf, +5%, NPO, 50V, C4 " POLYSTYRENE AXIAL AUTO INSERTABLE: 820pf, 5%, N150, 25V, C8,52.
11 12 13 14 15 16 17 18	CO14353 CO17885 CO10394 CO14369 CO14392 CO19040	4 1 2 1	" POLYESTER RADIAL: .068uf, +10%, 100V, C28-3¶,3 0,3 " " " .luf, +5%, 100V, C22 " " .22uf, +5%, 100V, C3 " ELECTROLYTIC RADIAL: 4.7uf, +75-10%, 35V, C2,14 " " 10uf, +50-10%, 16V, C25 " " 3300uf, +10%, 25V, C20
19 20 21 22 23 24 25 26 27 28 29 30 31 32 33	14-5220 14-5221 14-5621 14-5102 14-5182 14-5272 14-5332 14-5472 14-5912 14-5103 14-5133 14-5183 14-5183 14-5243 14-5563 19-411504	3 7 1 4 6 1 2 4 1 5 2 1 3 1	RESISTOR: 22Ω, 1/4W, 5%, R26,31,52 " 220Ω, 1/4W, 5%, R27,30,34,35,51,53,5 " 620Ω, 1/4W, 5%, R19 " 1κΩ, 1/4W, 5%, R6,9,16,17 " 1.8κΩ, 1/4W, 5%, R36-39,56,57 " 2.7κΩ, 1/4W, 5%, R18 " 3.3κΩ, 1/4W, 5%, R10,12 " 4.7κΩ, 1/4W, 5%, R2,8,11,13 " 9.1κΩ, 1/4W, 5%, R15 " 10κΩ, 1/4W, 5%, R24,32,33,40-48,50,54,55 " 13κΩ, 1/4W, 5%, R20,23 " 18κΩ, 1/4W, 5%, R14 " 24κΩ, 1/4W, 5%, R1,21,25 " 56κΩ, 1/4W, 5%, R22 POTENTIOMETER: 500κΩ, 1/4W, 5%, R7

	PARTS LI	ST SPE	CIFICATION Page 2 of 3
Item	Part Number	Qty.	Description
34 35 36 37 38 39	14-5910 14-5241 14-5222	1 1 1	RESISTOR: 91Ω, 1/4W, 5%, R3 " 240Ω, 1/4W, 5%, R4 " 2.2KΩ, 1/4W, 5%, R58
40	CAO15796	1	CARTRIDGE SOCKET ASSEMBLY: J7
41	CO15510	1	CRYSTAL: 3.579575 MHz, +120HZ, HC 18, Y1
42 43 44 45	CO10823 31-1N914 31-1N4001 CO14776	3 4 6 6	STANDOFF: LED DIODE: 1N914, CR2,3,14,15 " 1N4001, CR1,4-7,16, " LIGHT EMITTING, DS8-13
46 47 48 49 50 51	CO18277 CO14348 72-1406S 75-044 75-914C 78-16001	1 1 1 1 1 A/R	HEATSINK VOLTAGE REGULATOR, 7805, VR1 SCREW, #4-40x3/8 PHILLIPS PANHEAD WASHER, #4 SPLIT NUT, #4 STANDARD HEATSINK COMPOUND
52 53 54 55	CO15752 CO10823 CO14384	1 1 5	INDUCTOR: 1.8uH + 5%, L3 " 12 1/2 TURN VARIABLE .85-1.2uH, L2 " FERRITE BEAD: L4-8
56 57 58 59	CO17263 CO10448-CG 1906Z 79-5903	1 4 1	JACK, POWER: J5 " 9 PIN "D" SUB. RT. ANGLE, J1-4 " R.F. OUTPUT, J6
60 61 62 63 64	C014386-02 C014386-03 C014386-08 C014386-09	3 1 1 2	SOCKET, I.C. 14 PIN, XU5-7 " " 16 PIN, XU4 " " 28 PIN, XU1 " " 40 PIN, XU2,3
65 66 67 68	CO14397-01 CO12241 CAO11620-01	1 2 8	SWITCH, ROCKER S.P.D.T., S1 " SLIDE S.P.D.T., S10,11 " MOMENTARY PUSH BUTTON S.P.S.T., S2-9
69 70 71	33-2N3906 34-2N3563	2	TRANSISTOR: 2N3906, Q1,3 " 2N3563, Q2
72 73	CAO11620-02 CO10177-XX	8	ALTERNATE FOR ITEM #67 ALTERNATE FOR ITEM #41

ASSEN	ABLY TITLE CIN	DY PCB	SUB-ASSEMBLY	P/L CAO1	8030	REV.	3
	PARTS LI	ST SPE	CCIFICATION		Page 3 of	f 3	
Item	Part Number	Qty.		ription			
74 75	CO10727 CO12242	1 2	ALTERNATE FOR ITEM #57				
76	CO18028	1	ALTERNATE FOR ITEM #66 P.C.B.				
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TOOL	TATE	LL	1111	منكاء

CINDY PCB ASSEMBLY

P/L CA018029

PARTS LIST	Page 1 of 2	
Drawn DAN KRAMER		
Checked	Mech. Eng.	
Proj. Eng.	Elec. Eng.	Rev.
	Mfg. Eng.	3

Rev.	Description	Date	Apprv.	Rev.	Description	Date	Apprv.
3.	PROTO RELEASE						

Item	Part Number	Qty.	Description
1	CO17235	1	7405 I.C., U6
2	CO14362	1	74 LS32 I.C., U5
3	CO17224	1	74 LS157, U4
4	CO10745	1	6507, Ul
5	CO10444	1	TIA, U2
6	CO10750	1	6532 RIOT, U3
7	CO11464	1	4066 I.C., U7
8	CO18026	1.	TOP SHIELD
9	CO18027	1	BOTTOM SHIELD
10			
11	CA012174	1	5 PIN R.F. MODULATOR B, Al
12	CAO18030	1	P.C.B. SUB-ASSEMBLY
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SSEMBLY	TITLE	CINDY	PC
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B ASSEMBLY

P/L CA018029

	PARTS LIST S	Page 1 of 2	
Drawn	DAN KRAMER		
Checke	d	Mech. Eng.	
Proj. I	Eng.	Elec. Eng.	Rev.
		Mfg. Eng.	3

Rev.	Description	Date	Apprv.	Rev.	Description	Date	Apprv.
3	PROTO RELEASE						

Item	Part Number	Qty.	Description
1	CO17235	1	7405 I.C., U6
2	CO17235 CO14362	1	74 LS32 I.C., U5
3	CO17224	1	74 LS157, U4
4	CO10745	1	6507, Ul
5	CO10444	1	TIA, U2
6	CO10750	1	6532 RIOT, U3
7	CO11464	1	4066 I.C., U7
8	CO18026	1.	TOP SHIELD
9	CO18027	1	BOTTOM SHIELD
10			
11	CA012174	1	5 PIN R.F. MODULATOR B, Al
12	CA012174 CA018030	1	P.C.B. SUB-ASSEMBLY
	011020000		1.0.D. DOD HODDIDG
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Rev. Description 2 PROTO RELEASE	Drawn Cheeled Proj. En				Mach. Fug. Mcch. Rug. Mg. Eng.	Pege Lof	82 Nev. 2
- I - I - I - I - I - I - I - I - I - I	Checked Proj. En	g.			Mach. Rug. Blec. Rug. Mig. Eng.		Nev.
- I - I - I - I - I - I - I - I - I - I	Checked Proj. En		Apprv.	Rev.	Mig. Eng.		
- I - I - I - I - I - I - I - I - I - I	Proj. En		Apprv.	Rev.	Mig. Eng.		
- I - I - I - I - I - I - I - I - I - I			Apprv.	Rev.	Mig. Eng.		
- I - I - I - I - I - I - I - I - I - I	on	Date	Apprv.	Rev.			2
- I - I - I - I - I - I - I - I - I - I	on	Date	Apprv.	Rev.	1		
			Tr		Description	Date	Apprv.
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		,					
							-
71		1					
Item Part Number	Qty.				Description		
l C014180-19	9	CAP, C	CERAMIC	AXIAL	: .luf, +20%, X7F	27,3%,3%	21,26,
2 CO14180-18	68	"	11	**	.0luf, <u>+</u> 20%, X7F	50, C5	4,49,
3 C014180-17	1426	-11	11	11	.001uf, +20%, X7F		36 9,34-46
4 CO14180-04	1	"	n	**	150pf, +20%, X7R		'
5 C014180-07	2	"	"	"	470pf, +20%, X7R		,48
6 C014179=13 7 C014179=01	1	n	11 -	"	-20pf, +5%, NPO,		
8 C014179-05	117		"	**	22pf, +5%, NPO, 47pf, +5%, NPO,	50V, C12	8,11
-9 co10821 co 182	61 2	" POL	YSTYREN	NE AXIA	AL 820pf, 5%, 25V	58,52	.,
10 CO14353	4	" POL	YESTER	RADIAI	L: .068uf, +10%, 100	V, C28-31	
11 CO14369 12 CO14392	2	" ELE	CTROLYT		DIAL: 4.7uf, +75-10		
13 CO17517	1 1				' 10uf, +50-10 ' 3300uf, +-10%,		'
14 CO17885	12	" POL	YESTER	RADIAI	: .luf, +5%, 100V,	CZ.22	AUTO
15 CO10394	1	11		2.3	77 1		NOLICIA
16 CO14179-19	lil	CAP, C	CERAMIC	CAXI	AL 1000F +507 NA	20 50 11 010	
17		11	//	11	AL 100pf, ±5% NF	20 50	,,
18 14-5220	3	RESIST	OR: 2	2Ω , $1/$	4W, 5%, R26,31,52	U, W, C	7
19 14 5560	1-1-	<u> </u>	5	60.1/	4W. 5% R3		0.00
20 -14-5521 /4-52 21 14-5102		"	22	0Ω , $1/$	4W, 5%, R27 X 30,34,3	5,49,51, RS	,1252
21 14-5102 14-5122	4				4W, 5%, R6,9,16,17 4W, 5%, R19		
23 14-5182	6	11			4W, 5%, R36-39,56,5	7	
24 14-5332	2	"	3.31	$K\Omega$, $1/$	4W, 5%, R10,12		
25 14-5472 26 14-5912	48	"			4W, 5%, R2,8,18,11,	13	
27 14-5912	1524		9.11	$\kappa\Omega$, $1/$	4W, 5%, R15,74 4W, 5%, R32,33,40-4	8.50.54.55	24
28 14-5153	10-1				4W, 5%, R5	_,,	'
29 14-5183	18	"			4W, 5%, R14,20,23		
30 14-5243 31 14-5363	32				4W, 5%, R1,25,21 4W, 5%, R21		
32 14-5753	1				4W, 5%, R21 4W, 5%, R22		
33 14-5154	1-1-	11	150k	0, 1/	4W, 5%, R4		
34 19-411504 35 14-5272	1	POTENTI			KΩ, 1/4W, 5%, R7		
35 14-5272 36 14-5621		RESISTI	12	7Ks2, 1/	4W, 5% RI8		
37 14-5133	2	/	13	E.	, R20, 23		
A Warner Communications Compa		· ij -	50	Ch'	1 1222	, \	34 (1-80)

	PARTS	LIST SE	ECIFICATION Sage 2 of \$2
* - * 2	a Post Number	Qly.	Description
38	CA015796	1	CARTRIDGE SOCKET ASSEMBLY: J7
39 40 41	3313313	1	CRTSTAL: 3.579545 MHz, ±135HZ, HC 18, Y1
42 43 44 45 46 47 48 49 50	31-1N4001 CO14776 CO18277 CO14799 CO14348 72-1406 \$ 75-044 75-914C	4 6 1 1 1 1 1 1 A/R	DIODE: 1N914, CR2,3,14,15 " 1N4001, CR1,4-7 " LIGHT EMITTING, CR8-13 HEATSINK VOLTAGE REGULATOR,7805,VR1 SCREW, #4-40x3/8 PHILLIPS PANHEAD WASHER, #4 SPLIT NUT, #4 STANDARD HEATSINK COMPOUND
51 52 53 54	CO10823 CO14384	1 1 5	INDUCTOR: 1.8uH + 5%, L3 " 12 1/2 TURN VARIABLE .85-1.2uH, L2 " , FERRITE BEAD: 11,4-7 L4-8
55 56 57 58 59	C010448 79-5903	-1 -4 1	JACK, POWER: J5 " 9 PIN "D" SUB. RT. ANGLE, J1-4 " R.F. OUTPUT, J6
60 61 62 63 64 65	CO14386-03 CO14386-08	3 1 1 2	SOCKET, I.C. 14 PIN, X5-7 "
66 67 68 69	CO14397-01 CO12241 CA011620-01	1 2 8	SWITCH, ROCKER S.P.D.T., S1 " SLIDE S.P.D.T., S10,11 " MOMENTARY PUSH BUTTON S2-9
70	CA016075	1-1-	SUB. ASSY. HEAT SINK AND REGULATOR TYPE: 7805
71 72 73	33-2N3906 3 4 -2N3563	2 2	TRANSISTOR: 2N3906, Q1,Q3 " 2N3563, Q2
74 75 76	CA011620-02 C016805 C010727	8 1 1	ALTERNATE FOR ITEM #68 ALTERNATE FOR ITEM #39 ALTERNATE FOR ITEM #56
77	C018028	1	P.C.B.
	14-5910 14-5241		RESISTOR: 911, 14W 5% R3
	14-5222	1	" 2.7k, " 17, R58



ASSEMBLY TITLE / CINDY PCB SUB-ASSEMBLY P/LCA018030

PART	LIST SPECIFICATION	Page 1 of	3
Drawn			
Checked	Mech. Eng.		
Proj. Eng.	Elec. Eng.	,	Rev.
	Mfg. Eng.		3

Rev.	Description	Date	Apprv.	Rev.	Description	Date	Apprv.
2 A	PROTO RELEASE				COLLINAINI	IRY	
3	PRTOT RELEASE				PKELIMITA	ONLY	
					FOR INFORMATION	DOCUM	ENT
				· ·	M A TOP MOLES		

Item	Part Number	Qty.	Description
1	CO14180-19	9	CAP, CERAMIC AXIAL: .luf, + 20%, X7R, C1,9,18,21,26 27,34,35,51.
2	CO14180-18	6	" " " .0luf, +20%, X7R, C5,7,13,24,49,
3	CO14180-17	14	" " .00luf, +20%, X7R, Cl5,17,19,36-
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	CO14180-04 CO14180-07 CO14179-01 CO14179-05 CO14179-19 CO14179-22 CO18261 CO14353 CO17885 CO10394 CO14369 CO14369 CO14392 CO17517 CO19040	1 1 1 2 4 1 2 1	" " 150pf, +20%, X7R, 50V, C16 " " 470pf, +20%, X7R, 50V, C47,48 " " 22pf, +5%, NPO, 50V, C12 " " 47pf, +5%, NPO, 50V, C11 " " 100pf, +5%, NPO, 50V, C10 " " 10pf, +5%, NPO, 50V, C4 " POLYSTYRENE AXIAL AUTO INSERTABLE: 820pf, 5%, N150, 25V, C8,52. " POLYESTER RADIAL: .068uf, +10%, 100V, C28-31 " " .luf, +5%, 100V, C22 " " .22uf, +5%, 100V, C3 " ELECTROLYTIC RADIAL: 4.7uf, +75-10%, 35V, C2,14 " " 10uf, +50-10%, 16V, C25 " " 3300uf, +10%, 16V, C20
19 20 21 22 23 24 25 26 27 28 29 30 31 32 33	14-5220 14-5221 14-5621 14-5102 14-5182 14-5272 14-5332 14-5472 14-5912 14-5103 14-5133 14-5183 14-5243 14-5563 19-411504	3 7 1 4 6 1 2 4 1 15 2 1 3 1	RESISTOR: 22Ω , $1/4W$, 5% , $R26,31,52$ " 220Ω , $1/4W$, 5% , $R27,30,34,35,51,53,5$ " 620Ω , $1/4W$, 5% , $R19$ " $1K\Omega$, $1/4W$, 5% , $R6,9,16,17$ " $1.8K\Omega$, $1/4W$, 5% , $R36-39,56,57$ " $2.7K\Omega$, $1/4W$, 5% , $R18$ " $3.3K\Omega$, $1/4W$, 5% , $R10,12$ " $4.7K\Omega$, $1/4W$, 5% , $R2,8,11,13$ " $9.1K\Omega$, $1/4W$, 5% , $R2,8,11,13$ " $9.1K\Omega$, $1/4W$, 5% , $R24,32,33,40-48,50,54,55$ " $13K\Omega$, $1/4W$, 5% , $R24,32,33,40-48,50,54,55$ " $13K\Omega$, $1/4W$, 5% , $R14$ " $24K\Omega$, $1/4W$, 5% , $R14$ " $24K\Omega$, $1/4W$, 5% , $R1,21,25$ " $56K\Omega$, $1/4W$, 5% , $R22$ POTENTIOMETER: $500K\Omega$, $1/4W$, 5% , $R7$

PARTS LIST SPECIFICATION

Page 2 of 3

	PARTS L.	IST SPE	CCIFICATION Page 2 of 3
Item	Part Number	Qty.	Description
34 35 36 37 38 39	14-5910 14-5241 14-5222	1 1 1	RESISTOR: 91Ω, 1/4W, 5%, R3 " 240Ω, 1/4W, 5%, R4 " 2.2KΩ, 1/4W, 5%, R58
40	CAO15796	1	CARTRIDGE SOCKET ASSEMBLY: J7
41	CO15510	1	CRYSTAL: 3.579575 MHz, +120HZ, HC 18, Y1
42 43 44 45	Co18023 31-1N914 31-1N4001 CO14776	3 4 6 6	STAWDOFF: L.E.D. DIODE: 1N914, CR2,3,14,15 " 1N4001, CR1,4-7,16, " LIGHT EMITTING, CR8-13
46 47 48 49 50 51	CO18277 CO14348 72-1406S 75-044 75-914C 78-16001	1 1 1 1 A/R	HEATSINK VOLTAGE REGULATOR, 7805, VR1 SCREW, #4-40x3/8 PHILLIPS PANHEAD WASHER, #4 SPLIT NUT, #4 STANDARD HEATSINK COMPOUND
52 53 54 55	CO15752 CO10823 CO14384	1 1 5	INDUCTOR: 1.8uH + 5%, L3 " 12 1/2 TURN VARIABLE .85-1.2uH, L2 " FERRITE BEAD: L4-8
56 57 58 59	CO17263 CO10448 79–5903	1 4 1	JACK, POWER: J5 " 9 PIN "D" SUB. RT. ANGLE, J1-4 " R.F. OUTPUT, J6
60 61 62 63 64	CO14386-02 CO14386-03 CO14386-08 CO14386-09	3 1 1 2	SOCKET, I.C. 14 PIN, X5-7 "
65 66 67 68	CO14397-02 CO12241 CAO11620-01	1 2 8	SWITCH, ROCKER S.P.D.T., S1 " SLIDE S.P.D.T., S10,11 " MOMENTARY PUSH BUTTON S.P.S.T., S2-9
69 70 71	33-2N3906 34-2N3563	2	TRANSISTOR: 2N3906, Q1,3 " 2N2563, Q2
72 73	CAO11620-02 CO10177-XX	8	ALTERNATE FOR ITEM #67 ALTERNATE FOR ITEM #41

ASSEM	BLY TITLE CI	NDY PCB	SUB-ASSEMBLY	P/L CAC	18030	REV.	
	PARTS L	IST SPE	CIFICATION		Page 3	of 3	
Item	Part Number	Qty.		scription			
74 75 76 76	CO10727 CO12242 CO18028	1 2 1	ALTERNATE FOR ITEM #57 ALTERNATE FOR ITEM #66 P.C.B.	#65			
				i i			
						1 5 0 3 5	



ASSEMBLY	TITLE
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CINDY PCB ASSEMBLY

P/L CA018029

PARTS LIST	SPECIFICATION	Page 1 of 2	
Drawn DAN KRAMER			
Checked	Mech. Eng.		
Proj. Eng.	Elec. Eng.		Rev.
	Mfg. Eng.		3

1							
Rev.	Description	Date	Apprv.	Rev.	Description	Date	Apprv
3	PROTO RELEASE						-

Item	Part Number	Qty.	Description	
1	CO17235	1	7405 I.C., U6	
2.	CO14362	1	74 LS32 I.C., U5	
3	CO17224	1	74 LS157, U4	
4	CO10745	1	6507, Ul	
5	CO10444	1	TIA, U2	
6	CO10750	1	6532 RIOT, U3	
7	CO11464	1	4066 I.C., U7	
8	CO18026	1.	TOP SHIELD	
9	CO18027	1	BOTTOM SHIELD	
10				
11	CA012174	1	5 PIN R.F. MODULATOR B, Al	
12	CA018030	1	P.C.B. SUB-ASSEMBLY	
	·			
			· ·	

INTER-OFFICE MEMO



TO:

AL BECK

FROM:

ERIC BREEZE

DATE: 2/9/82

SUBJECT: CINDY HEAT SINK PCB MOUNTING HOLES

Attached is the Mechanical Drawing for Heat Sink #CO18277 along with a copy of Rich Papp's Memo stating reasons for the latest configuration.

The holes should be changed from rectangular to round to accomodate this new sink design.

EB/mam

Attachments: (2)

cc: L. BANKS

R. YAPO

D. KRAMER

J. LOZANO





TO:

ERIC BREEZE

FROM:

RICH PAPP

SUBJECT: (

CINDY HEAT SINK

DATE: 2/8/82

Preliminary indications show that are best choice for the heat sink will be a modified Thermalloy.

Thermalloy will make the heat sink per our drawing and we will use their clip on solder tabs.

The reason being for the use of other solder tabs instead of the stamped tab is a $20\,$ ¢ differential.

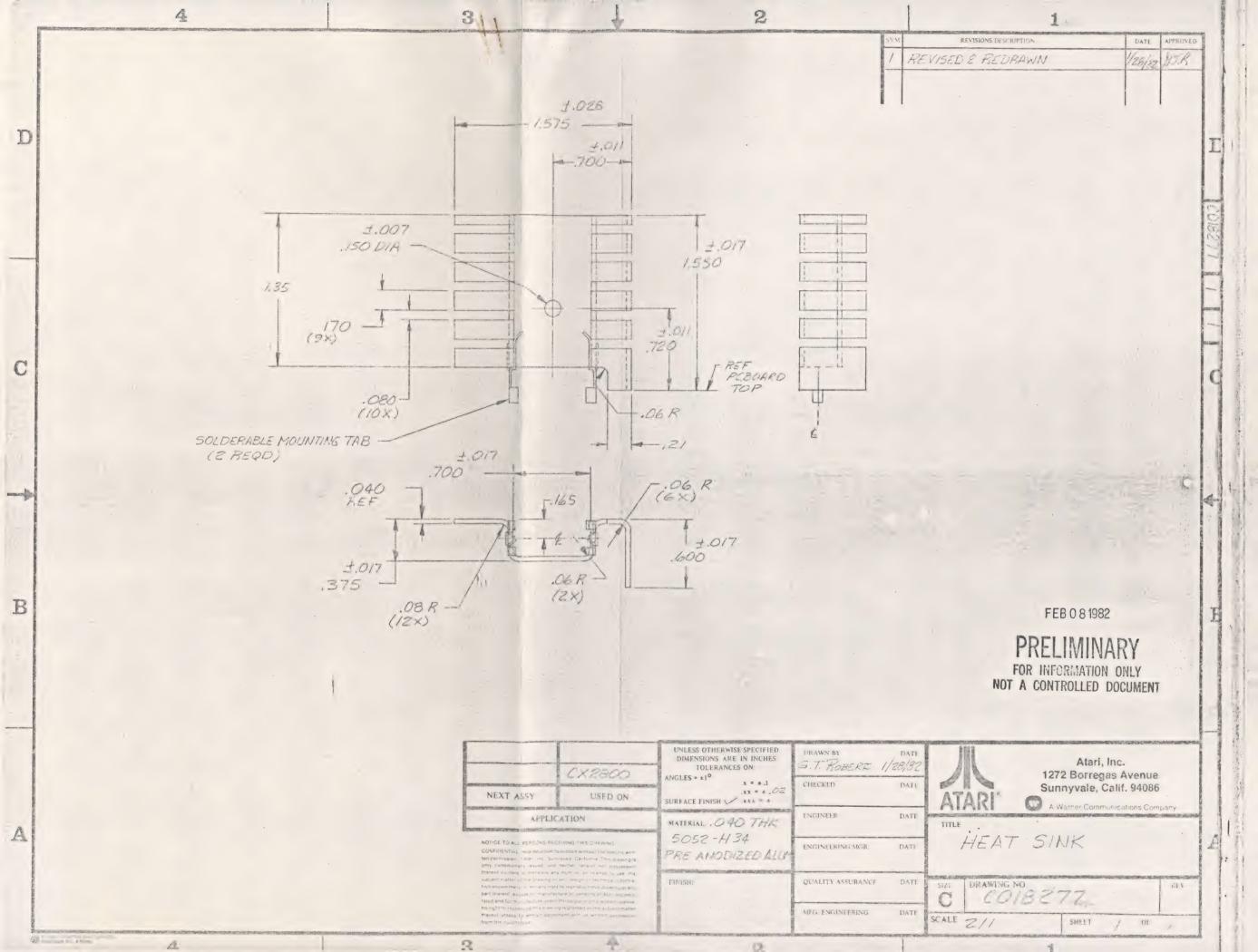
Please advise P.C. Department of larger holes required.

Attached is a copy of the latest drawing.

RP/mw Attachment

cc: Todd Weber

Dave Remson



CINDY

DINCREASEVOLLAGE RATING FOR (20 FROM 160 TO 25 V PUT ON DHOW TO KEEP LED'S UP OFF OF BOARD (HOW FAR?) SUD 1884? (3) 5 HOW VULTAGE PATING FOR CZO ON SUB-ASSY DWG. (250) (4) CORRECT (75 VAWE, 15 4.7, 5/10 10 pt B) CHECK ON DING # CO17517 FOR CZO RATING DETAIL ON SUB-ASSY TO SHOW SIDE VIEW COL8023 LEOSTANDOFF ADD TO PART LIST



Manufacturing Material Move

1				
DOCUM	ENT	NUN	IBER	

37604

FROM:	то:	JOB NUMBER	DATE		TIME
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PART NUMBE	R	DESCRIPTION		QU	ANTITY
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ISSUED BY:	P P B	RECEIVED BY: /	/	APPROVED BY:	ن

CONSUMER ENGINEERING



1272 BORREGAS AVENUE P.O. BOX **427** SUNNYVALE, CALIFORNIA 9408**6** TELEPHONE: (408) 745-225**0** TELEX: 35-748**8**

FIRST ARTICLE AND SAMPLE SUBMITTANCE FORM FOR PROTOTYPE PCB'S

VENDOR ATARI - AMTRONICS	
	20 (2008)
	o. 2B PROJECT INPY ((X2800)
PART DESCRIPTION PCB	
TOOLING: PROTOTYPE SOFT HARD	CAV. DIE SAMP IDENTIFICATION NOS.
VENDOR PART NO. OR I.D.	QTY. RECEIVED
P.O. NOITEM NO	FIRST ARTICLE RECVD. DATE 1/29/82
FIRST ARTICLE APPROVED DATE	FIRST ARTICLE REJECTED DATE
MECH. ENG.	MECH. ENG.
ELECT. ENG.	ELECT ENG.
I.D. ENG	I.D. ENG.
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COMMENTS/EVALUATION DNLY ONE OBVIOUS PI	ROBLEM: CONTROLLER JACKS WILL
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IS NOT CLOSE ENOUGH TO THE CENT	
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COPIES TO: ACCOUNTS PAYABLE ENGINEERIN	
DPURCHASING DVENDOR	QUALITY ASSURANCE

FIRST ARTICLE REPORT COPIES TO: ENGINEERING; MANUFACTURING; QUALITY ASSURANCE; VENDOR

CINDY REV 3 PARTS UST DISTRIBUTION

DAN KRAMER

JOHN LOZANO

JOE TILLEY

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JIM HOOPER (DRAFTING)

AL BECK (PCB LAYOUT)

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HANS KRAMER - 3099 ORCHARD 946-4174

DENNIS DE GHEDDER - 1171

JACKIE SOMMERS - 1171

JOHN DI FALCO - 1171

GEE MUNOZ - BERNARDO (SEND TO 1171 90 PAUL DI LEO)

JIM FERRY (PURCHASING)

JOE SACOBY & BERNARDO (PROTO RUN)

IBI

		ASSEMB	LY TITI	LE C	INDY P	CB SUB-ASSE	MBLY P	LCA0180	30
1			PAI	RTS LIST	T SPE	CIFICATION	I P	age <u>l</u> of	3
0		Drawn	ANKRE	HMER	1/20/82				
A	TARI	Checked	77775		1	Mech. Eng			
		Proj. Er	g.			Elec. Eng.			Rev.
	JUNFILIFNIALF					Mfg. Eng.			32
Rev	V. Description		Date	Apprv.	Rev.		ription	Date	Apprv
27	- Joseph Or	1	Date	Whbi A.	nev.	Desc	Прион	Date	propri a
3						DDE	MAINIA	DV	-
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					N(A Con	111222	17.70171	
Iten	n Part Number	I Ohi	T			Dogovistica			
		Qty.	1			Description		27 0 30	21 26
1	CO14180-19	9	CAP,	CERAMIC	AXIAL	: .luf,	+ 20%, X7R,	27,34,3	35.51.
2	∞14180-18	6	н	**	tt	.oluf,	+20%, X7R,		
3	CO14180-17	14	"	11	" ()	.00luf,	+20%, X7R,		19,36-
4	CO14180-04	1	"	**	11	150pf,	+20%, X7R,	50V, Cle	5
5 6	CO14180-07 CO14179-01	2	"	"	"	470pf,	+20%, X7R, +5%, NPO, 5	50V, C4	7,48
7	CO14179-01 CO14179-05	1. 1	"	91	**		+5%, NPO, 5		
8	CO14179-19	1	11	27	**		+5%, NPO, 5		
9	CO14179-22	1	"	77	***		+5%, NPO, 5		-0
10	∞18261	2	" F	OLYSTYF	RENE A		NSERTABLE: 25V, C8,52.		D*,
11	CO14353	4	" F	OLYESTE	R RAD	IAL: .068u	if, +10%, 100	V, C28-3	31
12	CO17885 ·	1	11	"	"	.lu	if, +5%, 100V	, C22	
13 14	CO10394 CO14369	1 2	"			. 220	if, +5%, 100V ouf, +75-10%,	35V C	2.14
15	©14392	1	11	LICK I ROL	illic i	" 10u	if, +50-10%,	16V, C2!	5
16	co17517	1	"	**			if, +10%, 16V		
17 18									
10									
19	14-5220	3	RESIST	OR:	22Ω ,	, 1/4W, 5%,	R26,31,52	3 -5	-
20 21	14-5221 14-5621	7	"		220Ω	1/4W, 5%, 1/4W, 5%,	R27,30,34,3	5,51,53	,5
22	14-5102	4	"				R6,9,16,17		
23	14-5182	6	11				R36-39,56,5	57	
24	14-5272	1	**			1/4W, 5%,			
25 26	14-5332 14-5472	2 4	11			1/4W, 5%,	R10, 12 R2, 8, 11, 13		
27	14-5912	1	11		9. lkΩ.	1/4W, 5%,	R15		
28	14-5103	15	11		10ΚΩ,	1/4W, 5%,	R24, 32, 33, 4	10-48,50	,54,55
29 30	14-5133 14-5183	2	11	MA A A		1/4W, 5%, 1/4W, 5%,			
31	14-5183	1 3	" (MAN		1/4W, 5%, 1/4W, 5%,			
32	14-5563	1	**		56KΩ,	1/4W, 5%,	R22		
33	19-411504	1	POTENT	IOMETER	: 500	$K\Omega$, $1/4W$,	5%, R7		

PARTS LIST SPECIFICATION

Page 2 of 3

	PARTS I	LIST SPE	CIFICATION Page 2 of 3
Item	Part Number	Qty.	Description
34 35 36 37 38 39	14-5910 14-5241 14-5222	1 1 1	RESISTOR: 91Ω, 1/4W, 5%, R3 240Ω, 1/4W, 5%, R4 2.2KΩ, 1/4W, 5%, R58
40	CAO15796	1	CARTRIDGE SOCKET ASSEMBLY: J7
41 42	CO15510	1	CRYSTAL: 3.579575 MHz, +120HZ, HC 18, Y1
43 44 45	31-1N914 31-1N4001 CO14776	4 67 6	DIODE: 1N914, CR2,3,14,15 " 1N4001, CR1,4-7,16,5" " LIGHT EMITTING, CR8-13
46 47 48 49 50 51	CO18277 CO14348 72-1406S 75-044 75-914C 78-16001	1 1 1 1 1 A/R	HEATSINK VOLTAGE REGULATOR, 7805, VR1 SCREW, #4-40x3/8 PHILLIPS PANHEAD WASHER, #4 SPLIT NUT, #4 STANDARD HEATSINK COMPOUND
52 53 54 55	CO15752 CO10823 CO14384	1 1 5	INDUCTOR: 1.8uH + 5%, L3 " 12 1/2 TURN VARIABLE .85-1.2uH, L2 " FERRITE BEAD: L4-8
56 57 58 59	CO17263 CO10448 79-5903	1 4 1	JACK, POWER: J5 " 9 PIN "D" SUB. RT. ANGLE, J1-4 " R.F. OUIPUT, J6
60 61 62 63 64	CO14386-02 CO14386-03 CO14386-08 CO14386-09	3 1 1 2	SOCKET, I.C. 14 PIN, X5-7 "
65 66 67 68	CO14397-02 CO12241 CAO11620-01	1 2 8	SWITCH, ROCKER S.P.D.T., S1 "SLIDE S.P.D.T., S10,11 "MOMENTARY PUSH BUTTON S.P.S.T., S2-9
69 70 71	33-2N3906 34-2N3563	2 1	TRANSISTOR: 2N3906, Q1,3 2N2563, Q2 3 Z
72 73	CAO11620-02 CO10177-XX	8	ALTERNATE FOR ITEM #67 ALTERNATE FOR ITEM #41

	PARTS I	LIST SPE	CCIFICATION	Page 3 of 3	
Item	Part Number	Qty.	Description		
74 76 75	CO10727 CO12242 CO18028	1 2 1	ALTERNATE FOR ITEM #57 ALTERNATE FOR ITEM #66 P.C.B.		
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3		Mit of the SES Mittelling Inc. (orbital specified to be seen and specified to the seen and specified to the seen and specified to the seen and specified and and spe	PARTS LIST SPECIFICATION Page 1 of 32
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11	-2 PK	heclad	Mach. Rug.
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	age at home	an increasing the second of the con-	Mfg. Eng.
Pag	Description	era yan dalifa minayadagahi sirike 1 - miner isa miner isa.	
2	PROTO RELEASE		Date Apprv. Rev. Description Date Apprv.
	THOTO RELEASE		
Item	Part Number	Qty.	Dogovintion
nem	Part Number	dry.	Description
1	CO14180-19	9	CAP, CERAMIC AXIAL: .luf, +20%, X7R, C1,9,18,21,26,
2	C014180-18	68	27,32,33,51. " " " .Oluf, +20%, X7R, C7, 13,24,49,
2	C014180-18	02	50, C5 36
3	CO14180-17	1416	" " " .001uf, +20%, X7R, C15,17,19,34-46
4 5	CO14180-04	1	" " 150pf, +20%, X7R, 50V, C16
6 _	CO14180-07 CO14179-13	2	" " 470pf, +20%, X7R, 50V, C47,48 " " -20pf, +5%, NPO, 50V, C4
7	C014179-01	1	" " " 22pf, +5%, NPO, 50V, C12
8	CO14179-05		" " 47pf, +5%, NPO, 50V, C5, 10, 11
- 9	CO10821 CD \646	2	** POLYSTYRENE AXIAL 820pf, 5%, 25V, C8,52
10	CO14353	4	" POLYESTER RADIAL: .068uf, +10%, 100V, C28-31
11	CO14369	2	** ELECTROLYTIC RADIAL: 4.7uf, +75-10%, 35VC2, 14
12 13	CO14392 CO17517	1 1	" " 10uf, +50-10%, 16V, C25 " " 3300uf, +-10%, 16V, C20
14	CO17885	121	" POLYESTER RADIAL: .luf, +5%, 100V, C%,22 AUTO
15	C010394	3 11	11 11 11 22 UT, 11 11 63 INSERTINE
16	E014179-19		CAR CEICHMIC AXIAL LOOPE -507 HOD -14
17	Application in the second of t	1	10pl 15% NPD 504 CH
18	14-5220	3	RESISTOR: 22Ω , $1/4W$, 5%, R26,31,52
19	14-5560	-1-	" 56Ω , $1/4W$, 5% , R3
20	14-5521- 14-5221	78	" 220Ω, 1/4W, 5%, R27×30,34,35,49,51, R5, R53
21	14-5102	4	" 1κΩ, 1/4W, 5%, R6,9,16,17
22	14-5122 14-5182	6	" 1.2KΩ, 1/4W, 5%, R19 " 1.8KΩ, 1/4W, 5%, R36-39,56,57
24	14-5332	2	" 3.3KΩ, 1/4W, 5%, R10,12
25	14-5472	45	" 4.7kΩ, 1/4W, 5%, R2,8,18,11,13
26	14-5912	17	" 9.1κΩ, 1/4W, 5%, R15,24
27	14-5103	1514	" 10κΩ, 1/4W, 5%, R32,33,40-48,50,54,55,24
29	14-5153 14-5183	1 3	" 15κΩ, 1/4W, 5%, R5 " 18κΩ, 1/4W, 5%, R14,20,23
30	14-5243	32	" 24KΩ, 1/4W, 5%, R1,25, 21
31	14-5363	1	36KΩ, 1/4W, 5%, R21
32	14-5753		75κΩ, 1/4W, 5%, R22
33	14-5154	1	" 150KΩ, 1/4W, 5%, R4
34	19-411504 14-5272	1	POTENTIOMETER: 500KΩ, 1/4W, 5%, R7 RESISTOR 2.7kΩ, 1/4W, 5% RIS
36	14-5621		" 620-2 " " R19
37	14-5133	2	13k, R20,23
	14		

10	PARTS	1.151' SPE	EIFICATION Page 2 of \$2
l' m	Part Number	Qiy.	Description
1.3	04015796	1.) - un of peut serve ar desc = 1.4:
· 9 · 0 41	COLEMIO	L	i int: 3,5,0545 m², ±1 . 4, 1d 18, 91
42	31-1N914	4	DIODE: 1N914, CR2,3,14,15
43	31-1N4001 CO14776	487	" 1N4001, CR1,4-7,/6,17 " LIGHT EMITTING, CRB-13
-1-1	CO18777	6	LIBITI SITTING, CROSS
45	CO14799	1 1	HEATSINK VOLTAGE REGULATOR, 7805 , VR1
46	CO14348 72-1406 5	1	SCREW, #4-40x3/8 PHILLIPS PANHEAD
48	75-044	1	WASHER, #4 SPLIT
49	75-914C	1	NUT, #4 STANDARD
50	78-16001	A/R	HEATSINK COMPOUND
51	CO15752	1	INDUCTOR: 1.8uH + 5%, L3
52	CO10823	1	" 12 1/2 TURN VARIABLE .85-1.2uH, L2
53	CO14384	5	" , FERRITE BEAD: L1,4-7 L4-8
55	CO17263	1	JACK, POWER: J5
56	CO10448	4	" 9 PIN "D" SUB. RT. ANGLE, J1-4
57 58	79-5903	1	" R.F. OUTPUT, J6
59			
60	CO14386-02	3	SOCKRT, I.C. 14 PIN, X5-7
61	CO14386-02	1	" " 16 PIN, X4
62	CO14386-08	1	" 28 PIN, X1
63	CO14386-09	2	" " 20 PIN, X2,3
64			40
03	62		
66	CO14397-01	1	SWITCH, ROCKER S.P.D.T., SI
67	CO12241	2	SWITCH, ROCKER S.P.D.T., S1 "SLIDE S.P.D.T., S10,11 "MOMENTARY PUSH BUTTON'S 2-9
68	CA011620-01	8	" MOMENTARY PUSH BUTTON 52-9
70			
70	CA016075	The state of the s	SUB. ASSY. HEAT SINK AND REGULATOR TYPE: 7805
71	33-2N3906	2 x	TRANSISTOR: 2N3906, Q1,Q3
72	3 5 -2N3563	1	" 2N3563, Q2
73			
74	CAO11620-02	8	ALTERNATE FOR ITEM #68
75	C016805	1	ALTERNATE FOR ITEM #39
76	CO10727	1	ALTERNATE FOR ITEM #56
77	CO18028	1	P.C.B.
	14-5910	1 2	RESISTOR: 91.2, 14W, 5%, R3 11 2402 11 11 R4 11 2.2k, 11 11 R58
	14-5241	1	1 2402 11 11 R4
	14-5222	1	2.2k, " " (38

INTER-OFFICE MEMO



TO:

RAY OUIBELAN

FROM:

ERIC BREEZE



DATE: 01/05/82

SUBJECT: CINDY REV 2

> REV 2 P.C. Boards were received on 12/28/81 and were assembled and tested. Electrically they performed as expected except for one missing P.C. Board trace in the oscillator circuit. It is understood that another revision is anticipated due to a number of minor mechanical points. If this is the case, a number of minor layouts could be improved.

- Eliminate R28 pads and silkscreen lift in by P.C.B. Layout from Rev. 1.
- Eliminate C32 and C33 as they are unnecessary.
- 3. Change designation for R28 to R58 on Schematic.
- 4. Change designation for D58-13 to CR8-13 on silkscreen.
- Eliminate waffled ground plane around the #2 holes for the heatsink.
- Left end of R58 not grounded. (P.C. error)
- Cut corner of P.C.B. by heatsink for increased airflow.
- 8. Move feed through above modulator pinout section to left, then expand width of ground plane between shield and modulator ground.
- 9. Add more feed throughs to ground plane between controller ports.
- Add additional power diode in series with voltage regulator. This is an additional safeguard about potential heat on voltage regulator, and assumes a lower worst case maximum supply current, of 500mA as it is felt the original 625mA is unrealistic.

Note: REV 3 should not be sent out for fabrication until Joe Fernandez has completed FCC RFI Testing.

EB/mam

cc: A. BECK

- R. YAPO
- J. FALKAR
- D. REMSON
- D. KRAMMER
- J. TILLEY



TO:

JOHN-DIFALCO

FROM:

JOE TILLEY

DATE: 12/01/81

SUBJECT: PARTS FOR CINDY PROTO BUILD

Attached you will find a bill of materials for the Cindy Project. Please let me know which items I will not be able to MTO out of stock for the up and coming February 19th 200 piece Proto Type Build. I need this information as quickly as possible to insure a complete parts inventory for the build.

DR/mam cc: T. Weber D. Remson we will pet uts

How have one of the propher

at he propher J. Lozano A. Cheng CC D. De fielder J. Murray P.D. (ED

;		ASSEMB	LY TITI	E/	CINDY	PCB ASSEMBLY	P/I	CA018	3029
11			PAI	TS LIST	SPE	CIFICATION	Pa	gelof2	
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COI	ICIDCATAL	Proj. En	g.			Elec. Eng.	-		Rev.
	VEIDEN I IAL					Mfg. Eng.			13
nev.			Date	Apprv.	Rev.	Description	-	Date	Apprv
13	PROTO RELEASE								
									-
Item	Part Number	Qty.				Description	-		
1 2 3 4 5 6 7 8 9 10	C017235 CN C014362 — C017224 CN C010745 PN C010444 CN C010750 CN C011464 CN C018026 — C018027 — CA012174 CA018030 —	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	74 LS 74 LS 6507, TIA, 6532 4066 TOP SI BOTTON	U2 RIOT, U3 I.C., U7	U5 DULAT	OR B, ↑I			
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100 March 100 100 100 100 100 100 100 100 100 10							
ASSEMBLY	TITLE	1	CINDY	PCB	SUB-ASSEMBLY	P/L	CA018030
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PARTS LIST SPECIFICATION

Page 1 of 3

Drawn

Checked

Mech. Eng.

Proj. Eng.

Rev.
2

	JNFIUENTIAL				Mfg. Eng.		
Rev.	Description	Date	Apprv.	Rev.	Description	Date	Apprv
2	PROTO RELEASE						
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	·						1.
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	Item	Part Number	Qty.	Description 50V.
	(1)	CQ14180-19	9	CAP, CERAMIC AXIAL: .luf, +20%, X7R, C1,9,18,21,26, 27,32,33,51.
	2	CO14180-18-	5	.0luf, +20%, X7R, C7, 13,24,49,
	3 4 5	C014180-17 C014180-04 6 C014180-07	16 1 2	" " .001uf, +20% X7R, C15,17,19,34-4 " 150pf, +20%, X7R, 50V, C16 " 470pf, +20%, X7R, 50V, C47,48
V	0	C014179-13 0 C014179-01 V C014179-05 V	1 3	20pf, +5%, NPO, 50V, C4 22pf, +5%, NPO, 50V, C12 47pf, +5%, NPO, 50V, C5,10,11
	10 11 12 13	CO10821 & CO1826 CO14353 CO14369 & CO14392 O CO17517 & CO17517	2 4 2 1	POLYSTYRENE AXIAL: 820pf, 5%, 25V, C8,52 "POLYESTER RADIAL: .068uf, +10%, 100V, C28-31 ELECTROLYTIC RADIAL: 4.7uf, +75-10%, 35VC2, 14 " 10uf, +50-10%, 16V, C25 " 3300uf, +-10%, 16V, C20
	14 15 16 17	co17885	2	" POLYESTER RADIAL: .luf, +5%, 100V, C3,22
	18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33	14-5220 e ^C 14-5560 e ^C 14-5521- 14-5102 e ^C 14-5182 e ^C 14-5332 e ^C 14-5472 e ^C 14-5912 e ^C 14-5153 e ^C 14-5153 e ^C 14-5163 e ^C 14-5243 e ^C 14-5363 e ^C 14-5753 e ^C 14-5753 e ^C 14-5154 e ^C 19-411504 e ^C	3 1 8 4 1 6 2 5 2 14 1 3 2 1 1	RESISTOR: 22Ω , $1/4W$, 5% , $R26$, 31 , 52 " 56Ω , $1/4W$, 5% , $R3$ " 220Ω , $1/4W$, 5% , $R27-30$, 34 , 35 , 49 , 51 " $1K\Omega$, $1/4W$, 5% , $R6$, 9 , 16 , 17 " $1.2K\Omega$, $1/4W$, 5% , $R19$ " $1.8K\Omega$, $1/4W$, 5% , $R36-39$, 56 , 57 " $3.3K\Omega$, $1/4W$, 5% , $R10$, 12 " $4.7K\Omega$, $1/4W$, 5% , $R10$, 12 " $4.7K\Omega$, $1/4W$, 5% , $R2$, 8 , 18 , 11 , 13 " $9.1K\Omega$, $1/4W$, 5% , $R32$, 33 , $40-48$, 50 , 54 , 55 " $15K\Omega$, $1/4W$, 5% , $R32$, 33 , $40-48$, 50 , 54 , 55 " $18K\Omega$, $1/4W$, 5% , $R14$, 20 , 23 " $24K\Omega$, $1/4W$, 5% , $R14$, 20 , 23 " $36K\Omega$, $1/4W$, 5% , $R1$, 25 " $36K\Omega$, $1/4W$, 5% , $R21$ " $75K\Omega$, $1/4W$, 5% , $R22$ " $150K\Omega$, $1/4W$, 5% , $R4$
	35	17 711301		

36 37 " R.F. OUTPUT, J6

SOCKRT, I.C. 14 PIN, X5-7

SWITCH, ROCKER S.P.D.T., S1

CO104480

79-59038

CO14386-026

CO14386-036

CO14386-086

CO14386-09

CO14397-018

CA011620-01

CO12241 5

33-2N3906 K

33-2N3563-

CA011620-02-

CO10727-

CO18028~

e016805-00/0177-XX1

90 EADHOUSE

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- SPST.

1E035 (1-80)

9 PIN "D" SUB. RT. ANGLE, J1-4

16 PIN, X4

28 PIN, X1

SLIDE S.P.D.T., S10,11

MOMENTARY PUSH BUTTON: \$2-9

20 PIN, X2,3

CONSUMER ENGINEERING



1272 BORREGAS AVENUE P.O. BOX 427 SUNNYVALE, CALIFORNIA 94086 TELEPHONE: (408) 745-2250 TELEX: 35-7488

A Warner Communications Company

FIRST ARTICLE AND SAMPLE SUBMITTANCE FORM FOR PROTOTYPE PCB'S

	•
VENDOR ATARI PCB LAYOUT DEPT.	· · ·
ATARI PART NO. CO 18029 REV. N	0. 3 PROJECT CINDY (2800)
PART DESCRIPTION PCB FABRICATION AP	2TWORK-PRE-MFG, INSPECTION
TOOLING: PROTOTYPE SOFT HARD	CAV. DIE SAMP. IDENTIFICATION NOS.
VENDOR PART NO. OR I.D.	QTY. RECEIVED
P.O. NOITEM NO	FIRST ARTICLE RECVD. DATE
FIRST ARTICLE APPROVED DATE	FIRST ARTICLE REJECTED DATE
MECH. ENG.	MECH. ENG.
ELECT. ENG.	ELECT ENG.
1.D. ENG.	I.D. ENG.
ENG. COORD.	ENG. COORD. Jan Kramer
CONS. Q. ENG.	CONS. Q. ENG.
1st ART. COORD.	1st ART. COORD.
OTHER	OTHER
COMMENTS/EVALUATION DADD FILLETS FOR AL	
CARTRIDGE SCIKET PADS (2) CHAN	NGE FERRITE BEAD REF. DESIS'S
AS FOLLOWS: FBI TO LY: FBZ TO LS	FB3 TO L6; FB4 TO L7; FB5 TO L8
3) SHOW ALL REF. DESIGS ON SIL	KSCREEN OUTS IDE OF COMPONENT
OUTLINE WHEREVER POSSIBLE!	FACILITATES VISUAL INSPECTION
WHEN BOARD IS LOADED) (F) MAKE	
2 MOUNTING PADS FOR THE HEATS,	
COPIES TO: ACCOUNTS PAYABLE ENGINEERIN	
PURCHASING VENDOR	Quality assurance
O' O	CONCIL MODULATION

1E011 R1 (10-80

FIRST ARTICLE REPORT COPIES TO: ENGINEERING; MANUFACTURING; QUALITY ASSURANCE; VENDOR



ASSEMBLY TITLE CINDY PCB SUB-ASSEMBLY P/LCA018030

PARTS LIST SPECIFICATION Page 1 of 3

Drawn Day Kramer 1/20/82

Checked Mech. Eng.

Proj. Eng.

Rev.
328

	INITULINITAL					Mfg. Eng.		ZH
Rev.	Description		Date	Apprv.	Rev.	Description I	Date	Apprv.
2 A	PROTO RELEASE							
3						PRELIVINAR	Y	
						FOR INFORMATION ON	\\	
					NO	OT A CONTROLLED POUL	JIVIE	The state of the s
Item	Part Number	Qty.						
1	CO14180-19	9	CAP,	CERAMIC	AXIAL	: .luf, + 20%, X7R, Cl,	,9,18 ,34,3	3,21,26 35,51.
2	CO14180-18	6	11	11	11	.01uf. +20%, X7R, C5.		

Item	Part Number	Qty.	Description
1	CO14180-19	9	CAP, CERAMIC AXIAL: .luf, + 20%, X7R, C1,9,18,21,26 27,34,35,51.
2	CO14180-18	6	" " .0luf, ±20%, X7R, C5,7,13,24,49,
3	CO14180-17	14	" " " .00luf, ±20%, X7R, C15,17,19,36-
4	CO14180-04	1	" " 150pf, +20%, X7R, 50V, C16
5	CO14180-07	.2	" 470pf, +20%, X7R, 50V, C47,48
6	CO14179-01	1	" " 22pf, +5%, NPO, 50V, Cl2
7	CO14179-05	1	" " 47pf, +5%, NPO, 50V, Cll
8	CO14179-19	1	" " 100pf, +5%, NPO, 50V, Cl0
9	CO14179-22	1	" " 10pf, +5%, NPO, 50V, C4
10	CO18261	2	" POLYSTYRENE AXIAL AUTO INSERTABLE: 820pf, 5%,
			N150, 25V, C8,52.
11	CO14353	4	" POLYESTER RADIAL: .068uf, +10%, 100V, C28-31
12	CO17885 ·	1	" .luf, +5%, 100V, C22
13	CO10394	1	" .22uf, +5%, 100V, C3
14	CO14369	2	" ELECTROLYTIC RADIAL: 4.7uf, +75-10%, 35V, C2,14
15	CO14392	ī	" 10uf, +50-10%, 16V, C25
16	CO17517	1	" 3300uf, +10%, 16V, C20
17 18			
19	14-5220	3	RESISTOR: 22Ω, 1/4W, 5%, R26,31,52
20	14-5221	7	" 2200, 1/4w, 5%, R27, 30, 34, 35, 51, 53, 5
21	14-5621	í	" 620Ω, 1/4W, 5%, R27,30,34,33,31,33,31
22	14-5102	4	" lkΩ, 1/4W, 5%, R6,9,16,17
23	14-5102	6	" 1.8κΩ, 1/4W, 5%, R36-39,56,57
24	14-5272	1	" 2.7KΩ, 1/4W, 5%, R18
25	14-5332	2	" 3.3κΩ, 1/4W, 5%, R10, 12
26	14-5472	4	" 4.7κΩ, 1/4W, 5%, R2,8,11,13
27	14-5912	1	" 9.1kΩ, 1/4W, 5%, R15
28	14-5103	15	" 10κΩ, 1/4W, 5%, R24, 32, 33, 40–48, 50, 54, 55
29	14-5133	2	" 13κΩ, 1/4W, 5%, R20,23
30	14-5183	1	" 18κΩ, 1/4W, 5%, R14
31	14-5243	3	" 24ΚΩ, 1/4W, 5%, R1,21,25
32	14-5563	1	" 56KΩ, 1/4W, 5%, R22
33	19-411504	1	POTENTIOMETER: 500KΩ, 1/4W, 5%, R7

PARTS	LIST	SPECIFICATION	

Page 2 of 3

Item Part Number		Qty. Description					
34			·				
35	14-5910 14-5241	1	RESISTOR: 91Ω, 1/4W, 5%, R3 " 240Ω, 1/4W, 5%, R4				
36	14-5222	1	" 2-2KΩ, 1/4W, 5%, R58				
37	14-3222	1	200 1/ 1/ 1/ John 100				
38							
39							
40	CAO15796	1	CARTRIDGE SOCKET ASSEMBLY: J7				
41	CO15510	1	CRYSTAL: 3.579575 MHz, +120HZ, HC 18, Yl				
42	CO15510		CRIDIAL. 3.37373 Palz, 12012, 10 13, 12				
43	31-1N914	4	DIODE: 1N914, CR2,3,14,15				
44	31-1N4001	67	" 1N4001, CR1,4-7,16,13				
45	CO14776	6	" LIGHT FMITTING, CR8-13				
46	CO18277	1	HEATSINK				
47	CO14348	1	VOLTAGE REGULATOR, 7805, VR1				
48	72 -1406 S	1	SCREW, #4-40x3/8 PHILLIPS PANHEAD				
49	75-044	1	WASHER, #4 SPLIT				
50	75-914C	1	NUT, #4 STANDARD				
51	78-16001	A/R	HEATSINK COMPOUND				
52	CO15752	1	INDUCTOR: 1.8uH + 5%, L3				
53	CO10823	1 1	" 12 1/2 TURN VARIABLE .85-1.2uH, L2				
54	CO10023	5	" FERRITE BEAD: L4-8				
55	CO11301		THINGTH DIAM. 114 0				
56	CO17263	1	JACK, POWER: J5				
57	CO10448	4	" 9 PIN "D" SUB. RT. ANGLE, J1-4				
58	79-5903	1	" R.F. OUTPUT, J6				
59							
60	CO14386-02	3	SOCKET, I.C. 14 PIN, X5-7				
61	CO14386-03	1	" 16 PIN, X4				
62	CO14386-08	1	" 28 PIN, X1				
63	CO14386-09	2	" 40 PIN, X2,3				
64							
65	CO14397-02	1	SWITCH, ROCKER S.P.D.T., Sl				
66	CO12241	2	" SLIDE S.P.D.T., S10,11				
67	CAO11620-01	8	" MOMENTARY PUSH BUTTON S.P.S.T., S2-9				
68							
69	33-2N3906	2	TRANSISTOR: 2N3906, Q1,3				
70	34-2N3563	1	" 2N2563, Q2				
71							
-							
72	CAO11620-02 CO10177-XX	8 1	ALTERNATE FOR ITEM #67 ALTERNATE FOR ITEM #41				
73							

PARTS L Part Number CO10727 CO12242 CO18028	Qty.	Description ALTERNATE FOR ITEM #57 ALTERNATE FOR ITEM #6 P.C.B.	·	f 3
0010727 0012242	1 2	ALTERNATE FOR ITEM #57 ALTERNATE FOR ITEM #6	·	
012242	2	ALTERNATE FOR ITEM #6	6	
CO18028	1	P.C.B.		

1	1	ASSEMB	1111 1	E	CIND	Y PCB ASSEMBLY	P/1_ C30	18029
			PAT	RTS LIST	SPE	CIFICATION	Page ! of	1
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1	PROTO RELEASE						i	
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Item	Part Number	· Qty.				Description Description		
1	CO17235	1	1	I.C.	116			
2 3	CO1436 2 CO1722 4	1		532 I.C. 5157 口で				
4	CO10745	1	6507	U 1	7		,	
5	CO10444 CO10750	1		UZ RIOT U3	>	COPPETE		
7 8	CO11464	1		I.C. Ц7		SPIPE IE	YOUT	il.
9	20111	- 1 in		- 10		LST		7
10	2 51112	Z (D	5	NO	(CISITEM	CLE	
11	CA012174	1	5 PIN	R.F. MO	DULAT	OR B, AI B) AI	1015	
12	CA018030	1	P.C.B	. SUB-AS	SEMBL	Y		
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-		PARTS J.		CIFICATION	Page 3 of 4
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					OCT 71981

14	, e	-	CIFICATION Fage 2 of 4
He n	Part Nepher	Ciù.	Description
:8 :3	CA015796 ·	1	CAPTRIDGE SOCKET ASSEMBLY - 77 CONFIDENTIAL
41 42	CO16010	1	CHYSTAL: 3.579545 MHz - Y
43	31-18914	4 5	DIODE: 111914 CR 2, 3, 14, 15
45	31-1N400 1 CO1477 6	6	" $1N4001 - CRI, 4-7$ " LIGHT EMITTING $08-13$
46	CO18023	3	" LED SUPPORT NOT USES ACC TO HUSELEE
47			
49			
50	CO14384	54	FERRITE BEAD - F81-5
51 52			
52			•
53	78-16001	A/R	HEATSINK COMPOUND
54			
56		1	INDUCTOR: 1.8uH - L3
57	CO15752 CO10823	1	" 12 1/2 TURN VARIABLE - LZ
58			
59			
60	CO17263	1	JACK, POWER: - J5
61	CO10448 79-590 3	4	" 9 PIN "D" SUB. RT. ANGLE - J1 - 4 " R.F. OUTPUT - J6
63			
64			
65	CO14386-02	3	SOCKET, I.C.: 14 PIN - XU577
66 67	CO14386-0 3 CO14386-0 8	1	" $\frac{16 \text{ PIN} - \times 0}{7}$.
68	CO14386-08	2	" 28 PIN - X J / " 40 PIN - X J Z , 3
69 70			7
70			
71	CO14397-XX	1	SWITCH, ROCKER: S/
72 73	CO12241	2 8	" SLIDE: - 5/0/// " MOMENTARY PUSH BUTTON: - 52-9
74			• •
75			DDELIMAINIADV
76	33-2N3906	1	TRANSISTOR: 2N3906-Q! PRELIMINARY
77 78	33-2N365 3	1	" FOR INFORMATION ONLY
79			NOT A CONTROLLED DOCUM
80	CO168 05	1	ALTERNATE FOR ITEM #40
81	CO1072 7	1	ALTERNATE FOR ITEM #61
82			OCT 71981

Inter Office Memo



Consumer Electronics Division

To: Hans Kramer

From: Dennis DeGhelder

Subject: Cindy Proto & Pilot Builds

Date: 1/13/82

The list below represents Board Components which the Materials Group cannot provide for the Cindy Proto Build of 25 and the Pilot Build of 200. This list is based on the Rev. 2A Proto Release, and assumes there are no changes in the Chip Kit CAO18029 since no update was published.

P/N	DESCRIPTION
∞14180-19	CAP, Ceramic, Axial, .1 uf
∞ 14180–18	Cap, Ceramic, Axial, .01 uf
CO14180-17	Cap, Ceramic, Axial, .001 uf
CO18261	Cap, Polystyrene, Axial, 820 pf
CO17885	Cap, Polyester, Radial, .1 uf
14-5621	Res- 620 Ohm
NEED TO ORDER -> 14-5133	Res- 13K Ohm
CO15510	Crystal
Note: We do have	ve alternate-CO10177. Can we use this?
BEING MADE	Heatsink .
BEING MADE ? -> C018277 CA011620-01; -02	Momentary Switch (-02 is Alt.)

In addition to the above, you will find that the socket assy CAO15796 will be issued as piece parts, and CO18027/CO18028, Shields, will not be provided.

Any problems, please call X5400.

Demistra Malle

Dennis DeGhelder

CC: J.DiFal∞

D.Kramer

W.Rader

J.Sommers

J.Tilley

D.Vinnage

L.LaMar

T.Murray



ASSEMBLY TITLE CINDY PCB SUB-ASSEMBLY

P/Lcao18030

PARTS I	Page 1 of 2	
Drawn		
Checked	Mech. Eng.	
Proj. Eng.	Elec. Eng.	Rev
	Mfg. Eng.	2 A

Rev.	Description		Date	Apprv.	Rev.	Description	Date	Apprv.
24	PROTO RELEASE					-		1
-								1.
-								-
Item	Part Number	Qty.				Description		
1	CO14180-19	9	CAP,	CERAMIC	AXIAL:	.luf, + 20%, X7R	, Cl,9,18 27,34,3	
2		6	11	**	**	.0luf, +20%, X7R,	C5,7,13,	-
3	CO14180-17	14	"	11		.00luf, +20%, X7R,	50. Cl5,17,1	9,36-
4	0014100 04		"	**	11	150-5 120° V7D	46.	
5	CO14180-04 CO14180-07	1 2	11		"	150pf, +20%, X7R, 470pf, +20%, X7R,	50V, C16	1 48
6	co14179-01	1	-11	11	- "	22pf, +5%, NPO,	50V, C12	, 10
7	CO14179-05	1	**	п	11	47pf, +5%, NPO,	50V, Cll	
8	CO14179-19	1	**	11	11	100pf, +5%, NPO,	50V, Cl0	
9	0014179-22	1	11	11	"	10pf, +5%, NPO,		
10	CO18261 »	2	"	POLYSTY	RENE AX	KIAL AUTO INSERTABLE:		ે કે,
11	co14353		н .	DOT TEROPIT	m papa	N150, 25V, C8,52		7
12	CO17885	1	11	POLYESTI "	ER RADI	AL: .068uf, +10%, 100 .luf, +5%, 100) _
13	CO17883	1	11	**	**	.22uf, +5%, 100		
14	CO14369	2	11	ELECTROI	YTTC F	RADIAL: 4.7uf, +75-10%		2,14
15	CO14392	1	11	11		" louf, +50-10%,		
16	CO17517	1	11	**		" 3300uf, +10%, 16	V, C20	
17								
18							,	
19	14-5220	3	RESIS'	IVD.	220	1/4W, 5%, R26,31,52		
20	14-5221	7	MESTS.	IOK:		1/4W, 5%, R27,30,34,	35.51.53.	.5
21	14-5621	i	11			1/4W, 5%, R19	00/02/00/	
22	14-5102	4	11		lkΩ,	1/4W, 5%, R6,9,16,17		
23	14-5182	6	"			1/4W, 5%, R36-39,56,	57	
24	14-5272	1	11			1/4W, 5%, R18		
25	14-5332	2	"			1/4W, 5%, R10,12		
26 27	14-5472	4	"		4. /KII,	1/4W, 5%, R2,8,11,13 1/4W, 5%, R15		
28	14-5912 14-5103	1 15	"		A. TKIS,	1/4W, 5%, R24, 32, 33, 4	40-48 50	54.55
29	14-5133	2	**			1/4W, 5%, R20,23	10 10,00	3.,33
30	14-5183	1	**			1/4W, 5%, R14		
31	14-5243	3	**		$24K\Omega$,	1/4W, 5%, R1,21,25		
32	14-5562-5563	1	11			1/4W, 5%, R22		
33	19-411504	1	POTEN	TIOMETER	R: 500	KΩ, 1/4W, 5%, R7		

	PARTS I	IST SPE	CIFICATION Page 2 of
Item	Part Number	Qty.	Description
34 35 36 37 38 39	14-5910 14-5241 14-5222	1 1 1	RESISTOR: 91Ω, 1/4W, 5%, R3 " 240Ω, 1/4W, 5%, R4 " 2.2KΩ, 1/4W, 5%, R58
40	CAO15796	1	CARTRIDGE SOCKET ASSEMBLY: J7
41 42	CO16010 CO15510	1	CRYSTAL: 3.579545 MHz, +135HZ, HC 18, Y1 3.579575 ±120Hz.
43 44 45	31-1N914 31-1N4001 CO14776	4 87 6	DIODE: 1N914, CR2,3,14,15 " 1N4001, CR1,44-7,44-7,46,17 " LIGHT EMITTING, CR8-13
46 47 48 49 50 51	CO18277 CO14348 72-1406S 75-044 75-914C 78-16001	1 1 1 1 A/R	HEATSINK VOLTAGE REGULATOR, 7805, VR1 SCREW, #4-40x3/8 PHILLIPS PANHEAD WASHER, #4 SPLIT NUT, #4 STANDARD HEATSINK COMPOUND
52 53 54 55	CO15752 CO10823 CO14384	1 1 5	INDUCTOR: 1.8uH ± 5%, L3 " 12 1/2 TURN VARIABLE .85-1.2uH, L2 " FERRITE BEAD: L4-8
56 57 58 59	CO17263 CO10448 79-5903	1 4 1	JACK, POWER: J5 " 9 PIN "D" SUB. RT. ANGLE, J1-4 " R.F. OUTPUT, J6
60 61 62 63 64	CO14386-02 CO14386-03 CO14386-08 CO14386-09	3 1 1 2	SOCKET, I.C. 14 PIN, X5-7 "
65 66 67 68	CO14397-01 CO12241 CAO11620-01	1 2 8	SWITCH, ROCKER S.P.D.T., S1 "SLIDE S.P.D.T., S10,11 "MOMENTARY PUSH BUTTON S.P.D.T., S2-9 S.P.S.T.
69 70 71	33-2N3906 34-2N3563	2	TRANSISTOR: 2N3906, Q1,3 " 2N2563, Q2
72 73	CAO11620-02 CO16805	8	ALTERNATE FOR ITEM #67 ALTERNATE FOR ITEM #41

SSEM	BLY TITLE CI	NDY PCB	SUB-ASSEMBLY	P/L CAO18	030	REV.
	PARTS L	IST SPE	CIFICATION		Page	of
tem	Part Number	Qty.	De	escription		
74	CO10727	1	ALTERNATE FOR ITEM #57			
75	CO18028	1	P.C.B.			



INTER-OFFICE MEMO

RECEIVED

DEC 02 1981

DAVE REMSON

DAVE REMSON

FROM:

JOE TILLEY

DATE:12/02/81

SUBJECT: PRODUCTION TEST SPECIFICATIONS FOR CINDY 2800

Input AC Power:

900 ma AC MAX. , 600 ma AC MIN.

Sound Oscillator Frequency:

4.50 MHz + .006MHz

RF Out, Channel 2: RF Out, Channel 3:

55.25 MHz + .600 MHz61.25 MHz + .200 MHz

RF Out Voltage; Channel 283: 1.5 MIN. MV, 2.5 MAX. MV. R.F. Pot Channel Timing w/100K Resistor: 5 m sec MIN., 10 m sec MAX.

Note: Cindy is identical to Stella with the exceptions that Cindy has two extra controller parts for use with paddle controllers, and Cindy requires an AC Power Input, where Stella required DC Power.

JT/mam

CONSUMER ENGINEERING



1272 BORREGAS AVENUE P.O. BOX 427 SUNNYVALE, CALIFORNIA 94086 TELEPHONE: (408) 745-2250 TELEX: 35-7488

FIRST ARTICLE AND SAMPLE SUBMITTANCE FORM

VENDOR	
ATARI PART NO. CO 18029 REV	IA CIMIDY
	NOPROJECT
PART DESCRIPTION P. C. BOARD	CAV. DIE SAMP IDENTIFICATION NOS.
TOOLING: PROTOTYPE SOFT HARD	CAV. DIE SAWII I ISERTINO NI SANTONI SA
VENDOR PART NO. OR I.D.	QTY. RECEIVED
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FIRST ARTICLE APPROVED DATE	FIRST ARTICLE REJECTED DATE
MECH. ENG.	MECH. ENG.
ELECT. ENG.	ELECT ENG. Dan Mamer / Joe Tilky
I.D. ENG	I.D. ENG.
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CONS. Q. ENG.	CONS. Q. ENG.
OTHER	OTHER
COMMENTS/EVALUATION DUG PINS 8 = 9	SHOULD BE REVERSED
2 CONNECTIONS REVERSED FOR WI	PER FUNGROUNDED SIDE OF RT, SOOK PO
	Z9 RADIAL LEAD NOT GROUNDED FLUATI
(4) R31-C33 NETWORK SHOULD BE CONNEC	
(3) R26-C32 NETWORK SHOULD BE COMNEC	TED TO S3 (LEFT "B" SWITCH)
(G) ENLARGE PADS ON CIRCUIT SIDE FOR L	
(2) ELIMINATE STRIPS PETWEEN CIRCUIT-S	TIDE TRACES UNDER REMODULE-THEY CA
CAUSE UNWANTED CAPACITIVE COUPL COPIES TO: ACCOUNTS PAYABLE PENGINEER	11/16
PURCHASING VENDOR	QUALITY ASSURANCE

FIRST ARTICLE REPORT COPIES TO: ENGINEERING; MANUFACTURING; QUALITY ASSURANCE; VENDOR

PRELIMINARY!



ASSEMBLY TITLE / CIN	DY PCB	P/L	
PARTS LIST SPE	CIFICATION	Page <u>1</u> of	
Drawn D. KRAMER 9/9/8/	NEXT ASSY.		
Checked	Mech. Eng.		
Proj. Eng.	Elec. Eng.		Rev.
COMP ENC	Mfg. Eng.		

Rev.	Description	Date	Apprv.	Rev.	Description	Date	Apprv.

Item	Part Number	Qty.			Descrip	tion		
1	CO 14181-03	1.	CAP.,	CERAMIC.	AXIA	L, - luf		
2	CO14181-02	5	CAP	/(/1	.01 uf		
3	(014181-01	16	CAP,	/1	11	,001 nf		
4	CO14179-13	1	CAP,	11	11	,20pf		
5	CO14179-01		CAP,	/(11	22pf		
6	CO14179-05	2	CAP,		11	, 47pf		
7	CO14180-04		CAP,	11	"1	,150 pf		
8	CO14180-07	2	CAP,	11	11	470pf		
9	0010821	2	CAP,		YREA	UE, 820P	f	
10	(014353	4	CAP,			D, .068 M	^	
11	014369	2		ELECTR	OLYT	10, 4. Tut	5	
12	,	1	CAP,			Jourt		
13		1	CAP,	11		3300	uf	
14		1	CAP.	11		Inf		
15	21-101104	2		POLY F	ILM	1 uf		
16	10,107)) / ((
17	14-5220	3	RESIS	TOR , 1/4	WCA	IRBON, 22	2	
18	14-5560	Ĩ.		STOR,	/1	11,56		
19	14-5221	8	RESI.	STOR,	17	", 226)	
20	14-5102	4	RESI	STOR,	11	" , Ik		

PRELIMINARY!

Description



Rev.

Description

ASSEMBLY TITLE CING	P/L		
PARTS LIST SPE	ECIFICATION	Page 2 of	
Drawn D. KRAMER 9/9/2	NEXT ASSY.		
Checked	Mech. Eng.		
Proj. Eng.	Elec. Eng.		Rev.
COMP. ENG.	Mfg. Eng.		

Item	Part Number	Qty.	Description
21	14-5122	1	RESISTOR, 1/4W. CARBON, 1.2K2
22	14-5182	4	RESISTOR, " , 1.8K
23	14-5332	4	RESISTOR 11 3.3k
24	14-5472	3	RESISTOR, " ", 4.7K
25	14-5912	2	RESISTOR, " " 9.1k
26	14-5103	10	RESISTOR " 10/K
27		1	RESISTOR " 151
28	14-5183	3	RESISTOR 11 11/18K
29	14-5243	2	RESISTOR " 1, 24k
30	14-5363		RESISTOR, 11 11, 36k RESISTOR, 11 11, 75k
31	14-5753		RESISTOR, " 150k
32	14-5154		,
33	19-411504	1	POTENTIONETER, 500K
34			
35	31-11914	2	DIDDE INQUI
37	31-11/4001	-	DIODE, IN914
,	01-11/4001	5	DIODE, IN 4001
38	22 2012001	0	DIODE, LIGHT EMITTING
39	33-2N3906	1	TRANSISTOR, 2N3906
40	33-2N3G53		TRANSISTOR, 2N3653

Apprv. Rev.

Date

Apprv.

Date





ASSEMBLY TITLE /	DY PCB	P/L
PARTS LIST SP	ECIFICATION	Page 3 of
Drawn D. KRAMER 9/9/81	NEXT ASSY.	
Checked	Mech. Eng.	
Proj. Eng.	Elec. Eng.	Rev.
COMP. ENG.	Mfg. Eng.	

	CC	MIL. LING	J.			8		
Rev.	Description		Date	Apprv.	Rev.	Description	Date	Apprv.
Item	Part Number	Qty.				Description		

Item	Part Number	Qty.	Description
41	C015752	/	INDUCTOR, 1.8mH
42	000002	/	INDUCTOR, 15 MH
43	(0100)	1	
44	CO10823	4	INDUCTOR, 12 1/2 TURN VARIABLE
45	(016010	7	FERRITE BEAD CRYSTAL, 3.579545 MHZ
	(016805		ALTERNATE FOR ITEM #45
	(010819)	
48			VOLTAGE REGULATOR, 78 MOS
10	82-AL604	1	SCREW #6 x. 25", TYPE BT. PHILLIPS
49	72-1406C	-	DCREW HYX. 375 QUIL QUEDO GOLS
50	75-044	-	WASHER, #4 SPLIT LOCK FOR ITEN
51	75-914C	equicible."	NUT, #4 MACHINE HEX \$#48
52	CO14386-02		14 PINIC. SOCKET
53	CO14386-03	/	16 PIN I.C. SOCKET
54	CO14386-08	1	. 28 PIN I.C. SOCKET
55	CO14386-09	2	40 PIN I.C. SOCKET
56			The Control of the Co
57			
_ ,			
58			
59	78-16001	AIR	HEATSINK COMPOUND
60			11 11 11 11 11 11 11 11 11 11 11 11 11



PRELIMINARY

ASSEMBI	LY TITL	E /	LNA	OY PCB	P/L	
	PAR	TS LIST	r SPE	CIFICATION	Page4 of _	
Drawn	KRAMER	9/9/8	7)	NEXT ASSY.		
Checked		1 ,		Mech. Eng.		
Proj. En	g.			Elec. Eng.		Rev.
COMP. EN	G.			Mfg. Eng.		
	Data	Δ	Dorr	Decemention	Data	Α

Rev.	Description	Date	Apprv.	Rev.	Description	Date	Apprv.
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Item	Part Number	Qty.				Description			
Item 61 62 63 64 66 67 669 70 71 72 73 74 75 76 77 78 79 80	CO10448 CO10727 79-5903	Qty. 1 4 1	CON-	OUT	LER PUT DGE	JACK, O II, AL JACK SOCKE	TERNATE T ASSER BOARS	FOR#	



PRELIMINARY

ASSEMBET TITLE	CINOY FINAL ASS	Y F/L	
PARTS L	IST SPECIFICATION	Page 1 of	
Drawn	NEXT ASSY.		
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Proj. Eng.	Elec. Eng.	R	lev.
COMP. ENG.	Mfg. Eng.		

Rev.	Description	Date	Apprv.	Rev.	Description	Date	Apprv
							-

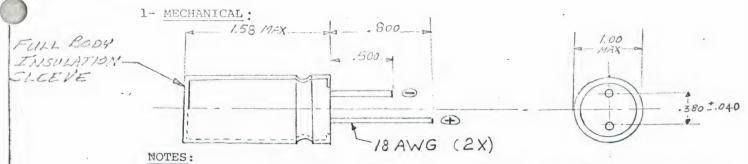
Item	Part Number	Qty.	Description
ltem /	Part Number	QLY.	. 4
1		/	PCB ASSEMBLY
2	CA012174	1	5 PIN R.F. MODULATOR
3	CO 17235	1	7405 I.C.
4	CO14362	1	74 LS 32 1.C.
5	CO17244	1	74LS157
6	CO10745	1	6507 MPU
7	CO10444	1	TIA
8	C010750	1	6532 PIA
9	CO11464	/	4066 I.C.
10		1	ROCKER SWITCH (ON-OFF)
11		2	SLIDE SWITCH (COL-BW, CH 2-3)
12		6	MOMENTARY PUSHBUTTON SWITCH
			(NORM-PADDLE, DIFF. A-B, LER)

CINDY PAIRTS LIST DISTRIBUTION

JOHN FACKAR - 1 - P.C. LAYOUT BRAD SEUILLE - 1 - HUMBOLDT GARY CANOUA - 1 - BETENARDO JOE TILLEY - 1 - ENG. ME ENG. ADOLFO -1 - COST. EST, BOB ROUSMAHA COMPONENTS MUGH LEE MECH. EXTRAS

CA-A CIARI

SPECIFICATIONS:



MARKING: CAPACITANCE VALUE, WVDC, POLARITY, MANUFACTURER'S NAME AND TEMPERATURE RATING.

SOLDERABILITY: SHALL WITHSTAND IMMERSION OF LEADS IN 270°C SOLDER TO WITHIN .125" OF THE BODY, FOR 3 SECONDS MIN.

CONTAIN SEAL TEST: (AS PER MANUFACTURER'S SPECIFICATIONS).

CAPACITOR SHALL NOT SHOW ANY EVIDENCE OF ELECTROLYTE LEAKAGE AT RECEIVING NOR AFTER INSTALLATION.

2- ELECTRICAL: (@ $T_A = 25^{\circ}$ C)

CAPACITANCE @ 120 HZ - 1V RMS: 3300uF -10% TO +75% TOLERENCE: WVDC: 16 V 20 V MAX SURGE VOLTAGE: MAX DC LEAKAGE CURRENT @ 16V: 1200,4A MAX ESR @ 120 HZ: .0307 1 MAX ESR @ 100 KHZ: .0147 1 DIELECTRIC STRENGTH: (FOR 1 MINUTE) 2000 V 100 Megohms INSULATION RESISTANCE: MIN. DISSIPATION FACTOR @ 1VRMS, 120HZ: MAX. 0.25 RIPPEL CURRENT @ 120 HZ, 85°C: MAX. 1.07 A RMS. OPERATING TEMPERATURE: -55° C TO 105° C

М	REVISIONS	DATE	APPROVED	SHEI	ET 1 OF 1
1	PROTO RELEASE	13/18/1	ist.	ATARI"	
				ALUMINUM ELECTROLYTIC	CAPACITOR: 3300 µ
				BRAWN BY - 1/2 /2 ENGINEERG MGR.	MATERIAL
1				CHECKED 4/13/81 OVAL ASSURANCE	DRAWING NO.
				ENGINEER 4/11/91 MFG. ENGINEERG.	CO17517

IS LED STANDOFF OAN PCB ASS'Y?

IS CO14372 AXTAL? YES

VOLTAGE RATINGON CO17793 35V

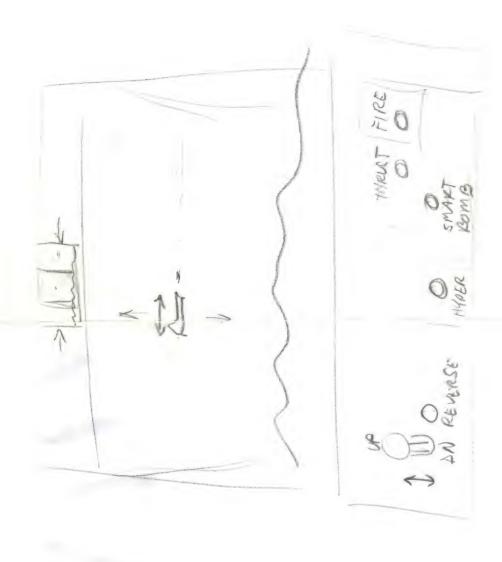
ARE SWITTHES WAVE - SOLDERABLE? YES

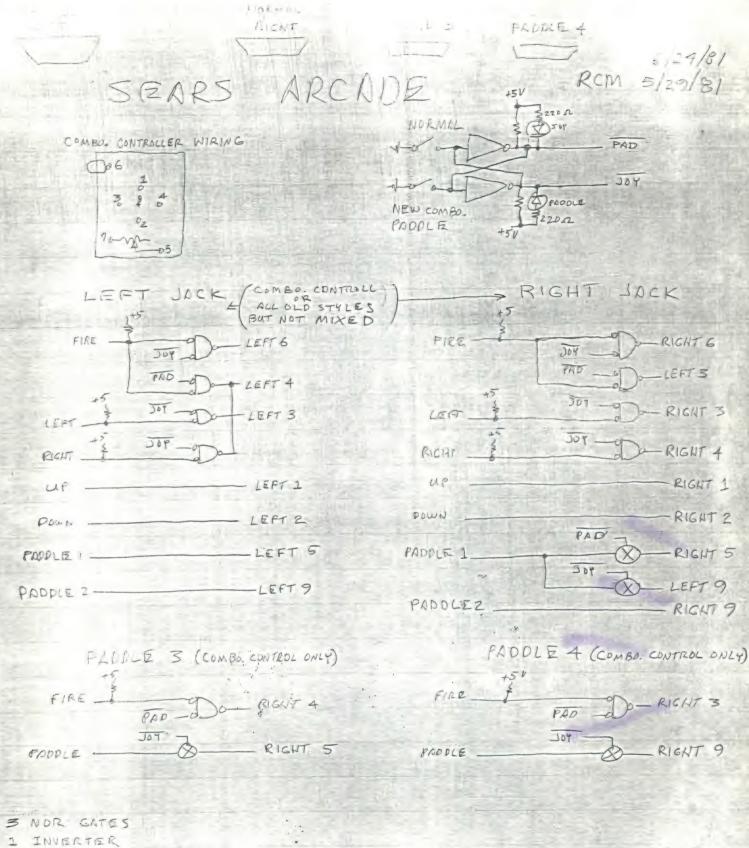
WHAT IS NO FOR FEB SER-ASSY PCB ALOVE

PTS LIST CAO18030

(SAB ASS'Y)

GARY CANON A NEEDS PARTS LIST, BO. FAB LAYOUT (STUFF DIAGRAM) SHOW ING SHIELD LOCATION 455 BERNAPDO 961-2285 x57 IND. ENG.



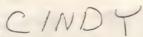


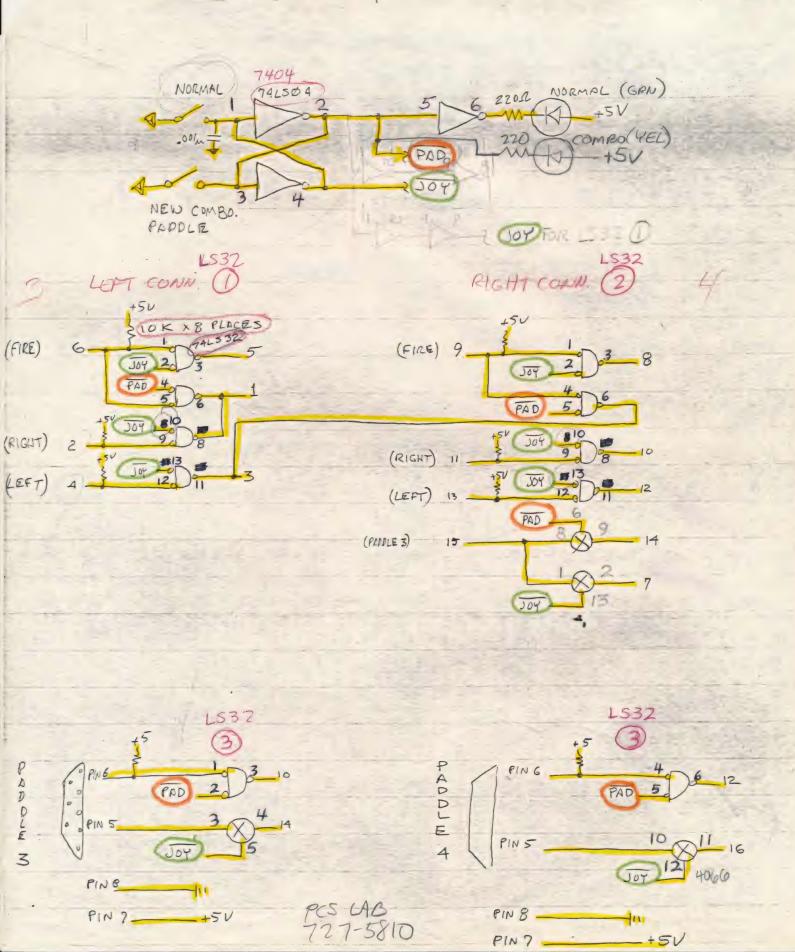
CMOS SWITCH

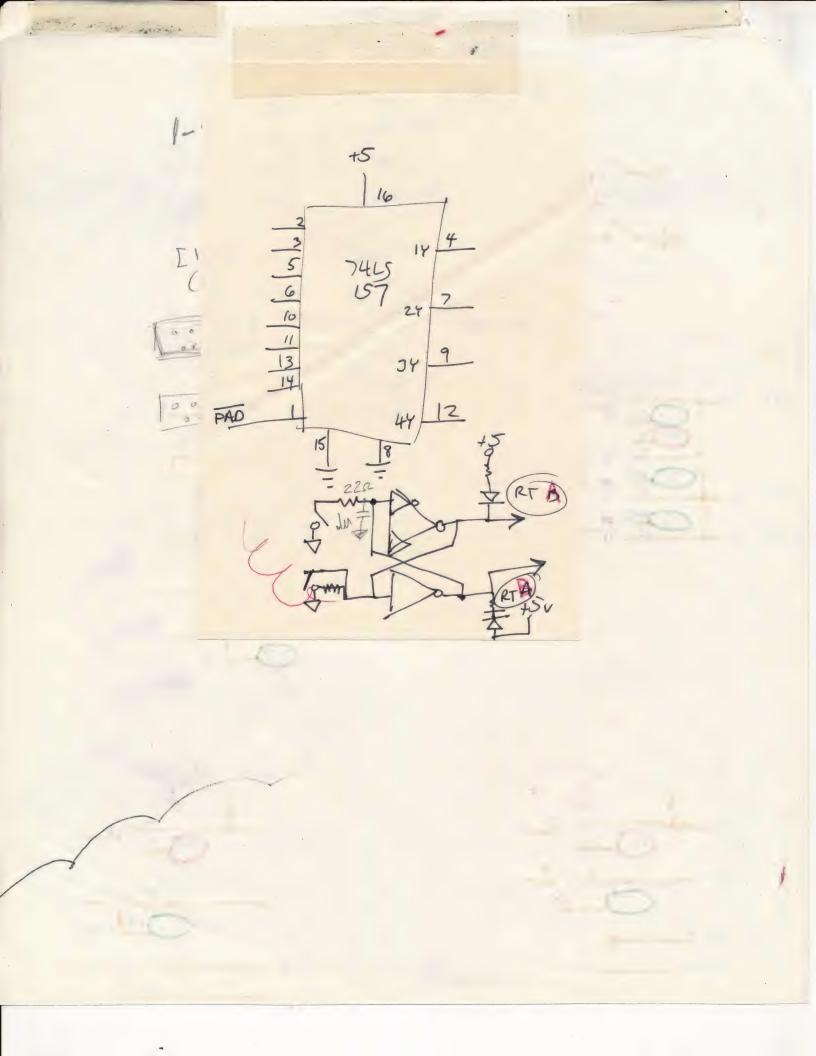
L 5 D

8 RESISTIRS

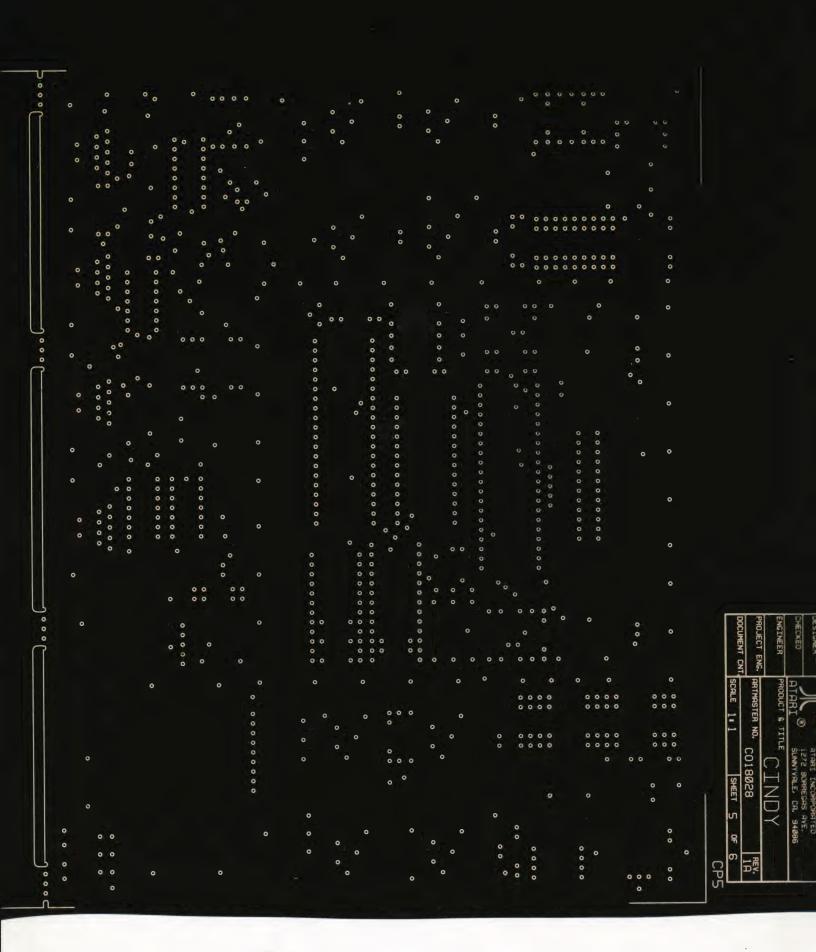
.4Va 1.6000







JOYSTICK UP, DN, C, R >1 FIRE (TRIG) >2 N+, GND) >2 POT LINES [1,2] NORMAL





	ASSEMBLY	TITLE	/	CINDY	PCB	ASSEMBLY	P/L	CA018029
1	Marille as to see a contraction by a second of the second	THE R. P. LEWIS CO., LANSING PROPERTY AND PR	l	Caracteristics of the September 1997 and the	THE PERSON NAMED IN COLUMN		to tills office receipts tills marker receiptablescent surfaces/firecestures and proceedings oper	tunglik tegit in N. N. att i vivi da propriation of the appropriation

PARTS LIST SI	PECIFICATION	Page 1 of 1
Drawn DAN KRAMER		
Checked	Mech. Eng.	
Proj. Eng.	Elec. Eng.	Rev.
E. Milliand Annual Contrary place and the Contrary of	Mfg. Eng.	1

Rev.	Danasistian	Data	1,	Des	D	1 22-4-	A
Les.	Description	Date	Apprv.	kev.	Description	Date	Apprv
1	PROTO RELEASE#	10/14/81					
		1111			4. The medical land content of the state		
							1

Item	Part Number	Qty.	Description
1 2 3 4 5 6 7 8 9	CO17235 CO14362 CO17224 CO10745 CO10444 CO10750 CO11464	1 1 1 1 1 1 1	7405 I.C., U6 74 LS32 I.C., U5 74 LS157, U4 6507, U1 TIA, U2 6532 RIOT, U3 4066 I.C., U7
11 12	CAO12174 CAO18030	1	5 PIN R.F. MODULATOR B P.C.B. SUB-ASSEMBLY



ASSEMBLY TITLE CINDY PCB SUB-ASSEMBLY

P/L CA018030

PARTS LIST	SPECIFICATION	Page I of 4
Drawn DAN KRAMER		
Checked	Mech. Eng.	VPM 73.0. 330. 3.39
Proj. Eng.	Elec. Eng.	Rev.
	Mfg. Eng.	1

Rev.	Description		Apprv.	Description	Date	Apprv
1	PROTO RELEASE	10/14/81		TO SERVICE AND A		
		1.11				
						+

Item	Part Number	Qty.	Description						
,	0014101 00		C1,9,18,21,26,27						
1	C014181-03	11	CAP, CERAMIC AXIAL: .luf, +80-20%, 32, 33, 51 " " " .0luf, " , C7,13,24,49,50						
2	C014181-02	5	" " .0luf, " , C7,13,24,49,50						
3	CO14181-01	16	.001u1, , , , , , , , , , , , , , , , , , ,						
5	CO14179-13	1	20p1, +5%, NPO, 50V, C4						
6	CO14179-01	1	22pi, +3%, NPO, 50V, CI2						
7	CO14179-05	2	4/p1, +3%, NPO, 50V, C5,10,11						
8	CO14180-04	1	130p1, ±20%, X/R, 30V, C16						
9	CO14180-07	2	4/0pi, ±20%, X/R, 50V, C4/,48						
_	CO10821	2	" POLYSTYRENE: 820pf, 5%, 25V, C8,52						
10	CO14353	4	"POLYSTER RADIAL: .068uf, +10%, 100V,C28-31						
11	CO14372	2	" ELECTROLYTIC AXIAL: 4.7uf, +75-10%, 35v,C14,2						
12	CO14371	1	" " 10uf, +50-10%, 16V,C25						
13	CO17517	1	" 3300uf, +50-10%, 16V,C20						
14	CO17885	2	"POLYSTER RADIAL: .luf, $\pm 5\%$, 100V,C3,22						
15									
16									
17									
18	14-5220	3	RESISTOR: 22Ω , $1/4W$, 5%, $R26,31,52$						
19	14-5560	1	" 56Ω , $1/4W$, 5% , R3						
20	14-5521	8	" 220Ω , $1/4W$, 5% , $R27-30,34,35,49,51$						
21	14-5102	4	" $1K\Omega$, $1/4W$, 5% , $R6,9,16,17$						
22	14-5122	1	" 1.2KΩ, 1/4W, 5%, R19						
23	14-5182	4	" 1.8KΩ, 1/4W, 5%, R36-39						
24	14-5332	2	" 3.3 K Ω , $1/4$ W, 5 %, R10-13						
25	14-5472	5	" 4.7κΩ, 1/4W, 5%, R2,8,18						
26	14-5912	2	" 9.1κΩ, 1/4W, 5%, R15,24						
27	14-5103	12	" $10 \text{K}\Omega$, $1/4 \text{W}$, 5%, R32,33,40-48,50,54,55						
28	14-5153	1	" 15κΩ, 1/4W, 5%, R5						
29	14-5183	3	" 18KΩ, 1/4W, 5%, R14,20,23						
30	14-5243	2	" 24KΩ, 1/4W, 5%, R1,25						
31	14-5363	1	" 36KΩ, 1/4W, 5%, R21						
32	14-5753	1	" 75κΩ, 1/4w, 5%, R22						
33	14-5154	1	" 150KΩ, 1/4W, 5%, R4						
34	19-411504	1	POTENTIOMETER: 500 k Ω , $1/4$ w, 5 %, R7						
35			, , , , , , , , , , , , , , , , , , , ,						
36									
37									

ASSEN	MBLY TITLE CIND	Y PCB SU	B-ASSEMBLY P/L CA018030 REV.
	PARTS I	LIST SPE	CIFICATION Fage 2 of 4
Item	Part Number	Qty.	Description
38 39	CAO15796	1	CARTRIDGE SOCKET ASSEMBLY: J7
40 41 42	CO16010	1	CRYSTAL: 3.579545 MHz, Y1
43 44 45 46 47 48 49	31-1N914 31-1N4001 CO14776 CO18023	4 5 6 3	DIODE: 1N914, CR2,3,14,15 " 1N4001, CR1,4-7 " LIGHT EMITTING, CR8-13 " LED SUPPORT
50 51 52	CO14384	4	FERRITE BEAD: L1,3-6
53 54 55	78-16001	A/R	HEATSINK COMPOUND
56 57 58 59	CO15752 CO10823	1	INDUCTOR: 1.8uH + 5%, L3 " 12 1/2 TURN VARIABLE .85-1.2uH, L2
60 61 62 63 64	CO17263 CO10448 79-5903	1 4 1	JACK, POWER: J5 " 9 PIN "D" SUB. RT.ANGLE, J1-4 " R.F. OUTPUT, J6
65 66 67 68 69 70	C014386-02 C014386-03 C014386-08 C014386-09	3 1 1 2	SOCKET, I.C.: 14 PIN, X5-7 " " 16 PIN, X4 " " 28 PIN, X1 " " 40 PIN, X2,3
71 72 73 74	CO14397-XX CO12241	1 2 8	SWITCH, ROCKER: S1 " SLIDE: S10,11 " MOMEMTARY PUSH BUTTON:S2-9
75	CA016075	1	SUB. ASSY. HEAT SINK AND REGULATOR TYPE: 7805
76 77 78 79	33-2N3906 33-2N3653	1	TRANSISTOR: 2N3906, Q1 2N3653, Q2
80 81 82	CO16805 CO10727	1	ALTERNATE FOR ITEM #40 ALTERNATE FOR ITEM #61

Hem Part Number Qty. Description 83 Col8028 1 P.C.B.	Page 3 of 4
83 CO18028 1 P.C.B.	
83 CO18028 1 P.C.B.	

ASSEMBLY TITLE / CINDY PCB SUB-ASSEMBLY

P/Lca018030

PARTS LIST SPE	Page 1 of 3	
Drawn Dan Kramen		
Checked 7/2 2/14/87	Mech. Eng.	
Proj. Eng.	Elec. Eng.	Rev.
	Mfg. Eng.	3

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Rev.	Description		Date	Apprv.	Rev.	Description	Date	Apprv.
2 A	PROTO RELEASE							
3	PRIOT RELEASE					PRELIMI	MARY	
						FOR INFORMATI	ON ONL	MENT
						MOLA CONTROLL		
Item	Part Number	Qty.				Description		

			TOT A SOLVE
Item	Part Number	Qty.	Description
1	CO14180-19	9	CAP, CERAMIC AXIAL: .luf, + 20%, X7R, Cl,9,18,21,26 27,34,35,51.
2	CO14180-18	6	" " .01uf, +20%, X7R, C5,7,13,24,49,
3	CO14180-17	14	" " .00luf, +20%, X7R, Cl5,17,19,36-
4 5 6 7 8 9	C014180-04 C014180-07 C014179-01 C014179-05 C014179-19 C014179-22 C018261	1 2 1 1 1 2	" " 150pf, +20%, X7R, 50V, C16 " " 470pf, +20%, X7R, 50V, C47,48 " " 22pf, +5%, NPO, 50V, C12 " " 47pf, +5%, NPO, 50V, C11 " " 100pf, +5%, NPO, 50V, C10 " " 10pf, +5%, NPO, 50V, C4 " POLYSTYRENE AXIAL AUTO INSERTABLE: 820pf, 5%, N150, 25V, C8,52.
11 12 13 14 15 16 17	CO14353 CO17885 CO10394 CO14369 CO14392 CO19040	4 1 2 1 1	" POLYESTER RADIAL: .068uf, +10%, 100V, C28-31 " " .luf, +5%, 100V, C22 " .22uf, +5%, 100V, C3 " ELECTROLYTIC RADIAL: 4.7uf, +75-10%, 35V, C2,14 " " louf, +50-10%, 16V, C25 " " 3300uf, +10%, 25V, C20
19 20 21 22 23 24 25 26 27 28 29 30 31 32 33	14-5220 14-5221 14-5621 14-5102 14-5182 14-5272 14-5332 14-5472 14-5912 14-5103 14-5133 14-5183 14-5243 14-5563 19-411504	3 7 1 4 6 1 2 4 1 15 2 1 3 1	RESISTOR: 22Ω, 1/4W, 5%, R26,31,52 " 220Ω, 1/4W, 5%, R27,30,34,35,51,53,5 " 620Ω, 1/4W, 5%, R19 " 1κΩ, 1/4W, 5%, R6,9,16,17 " 1.8κΩ, 1/4W, 5%, R36-39,56,57 " 2.7κΩ, 1/4W, 5%, R18 " 3.3κΩ, 1/4W, 5%, R10,12 " 4.7κΩ, 1/4W, 5%, R2,8,11,13 " 9.1κΩ, 1/4W, 5%, R2,8,11,13 " 9.1κΩ, 1/4W, 5%, R24,32,33,40-48,50,54,55 " 13κΩ, 1/4W, 5%, R20,23 " 18κΩ, 1/4W, 5%, R14 " 24κΩ, 1/4W, 5%, R1,21,25 " 56κΩ, 1/4W, 5%, R22 POTENTIOMETER: 500κΩ, 1/4W, 5%, R7

PARTS LIST SPECIFICATION

Page 2 of 3

	PARTS LI	ST SPE	CIFICATION Page 2 of 3
Item	Part Number	Qty.	Description
34 35 36 37 38 39	14-5910 14-5241 14-5222	1 1 1	RESISTOR: 91Ω, 1/4W, 5%, R3 " 240Ω, 1/4W, 5%, R4 " 2.2KΩ, 1/4W, 5%, R58
40	CAO15796	1	CARTRIDGE SOCKET ASSEMBLY: J7
41	CO15510	1	CRYSTAL: 3.579575 MHz, +120HZ, HC 18, Y1
42 43 44 45	CO10823 31-1N914 31-1N4001 CO14776	3 4 6 6	STANDOFF: LED DIODE: ln914, CR2,3,14,15 " ln4001, CR1,4-7,16, " LIGHT FMITTING, DS 8-13
46 47 48 49 50 51	CO18277 CO14348 72-1406S 75-044 75-914C 78-16001	1 1 1 1 A/R	HEATSINK VOLTAGE REGULATOR, 7805, VR1 SCREW, #4-40x3/8 PHILLIPS PANHEAD WASHER, #4 SPLIT NUT, #4 STANDARD HEATSINK COMPOUND
52 53 54 55	CO15752 CO10823 CO14384	1 1 5	INDUCTOR: 1.8uH + 5%, L3 " 12 1/2 TURN VARIABLE .85-1.2uH, L2 " FERRITE BEAD: L4-8
56 57 58 59	CO17263 CO10448 79-5903	1 4 1	JACK, POWER: J5 " 9 PIN "D" SUB. RT. ANGLE, J1-4 " R.F. OUTPUT, J6
60 61 62 63 64	C014386-02 C014386-03 C014386-08 C014386-09	3 1 1 2	SOCKET, I.C. 14 PIN, XU5-7 "
65 66 67 68	CO14397-01 CO12241 CAO11620-01	1 2 8	SWITCH, ROCKER S.P.D.T., S1 " SLIDE S.P.D.T., S10,11 " MOMENTARY PUSH BUTTON S.P.S.T., S2-9
69 70 71	33-2N3906 34-2N3563	2	TRANSISTOR: 2N3906, Q1,3 " 2N3563, Q2
72 73	CAO11620-02 CO10177-XX	8	ALTERNATE FOR ITEM #67 ALTERNATE FOR ITEM #41

ŠSEN	BLY TITLE CI	NDY PCB	SUB-ASSEMBLY	P/L CAO	T8030	REV.
	PARTS L	IST SPE	CIFICATION		Page 3 of	3
tem	Part Number	Qty.	De	escription		
74 75	CO10727 CO12242	1 2	ALTERNATE FOR ITEM #57 ALTERNATE FOR ITEM #66			
76	CO18028	1	P.C.B.			



ASSEMBLY TITLE

CINDY PCB ASSEMBLY

P/L CA018029

PARTS LIST SPE			LIST SPE	CIFICATION	Page 1 of 2	2
Drawn	DAN	KRAMER				
Checked	d			Mech. Eng.		
Proj. E	Eng.		1	Elec. Eng.		Rev.
				Mfg. Eng.		3

Rev.	Descriptio	n D	ate	Apprv.	Rev.	Description	Date	Apprv.
3	PROTO RELEASE							
		7						

tem	Part Number	Qty.	Description
1	CO17235	1	7405 I.C., U6
2	CO14362	1	74 LS32 I.C., U5
3	CO17224	1	74 LS157, U4
4	CO10745	1	6507, Ul
5	CO10444	1	TIA, U2
6	CO10750	1	6532 RIOT, U3
7	CO11464	1	4066 I.C., U7
8	CO18026	1.	TOP SHIELD
9	CO18027	1	BOTTOM SHIELD
LO	0010027		
11	CA012174	1	5 PIN R.F. MODULATOR B, Al
L2	CAO18030	1	P.C.B. SUB-ASSEMBLY
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